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Magazine for Medium and Large Format Photography · US \$ 3.90



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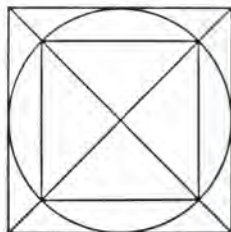
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international photo technik



3/1977

The magazine in English, German and French for applied medium- and large-format-photography.

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The choice of a fashion photo as a cover for this edition of International Photo Technik involved a certain risk as far as sales are concerned. Decisive for the Editor, however, was the excellent composition, color harmony and image quality. The subject was blocked out and then copied together with a neutral background. Photo: Erich Bauer, Karlsruhe

Unspoilt nature on the Galapagos Islands. The photo was taken from a book with this title by kind permission of the publishers, Hallwag-Verlag, Bern. ►

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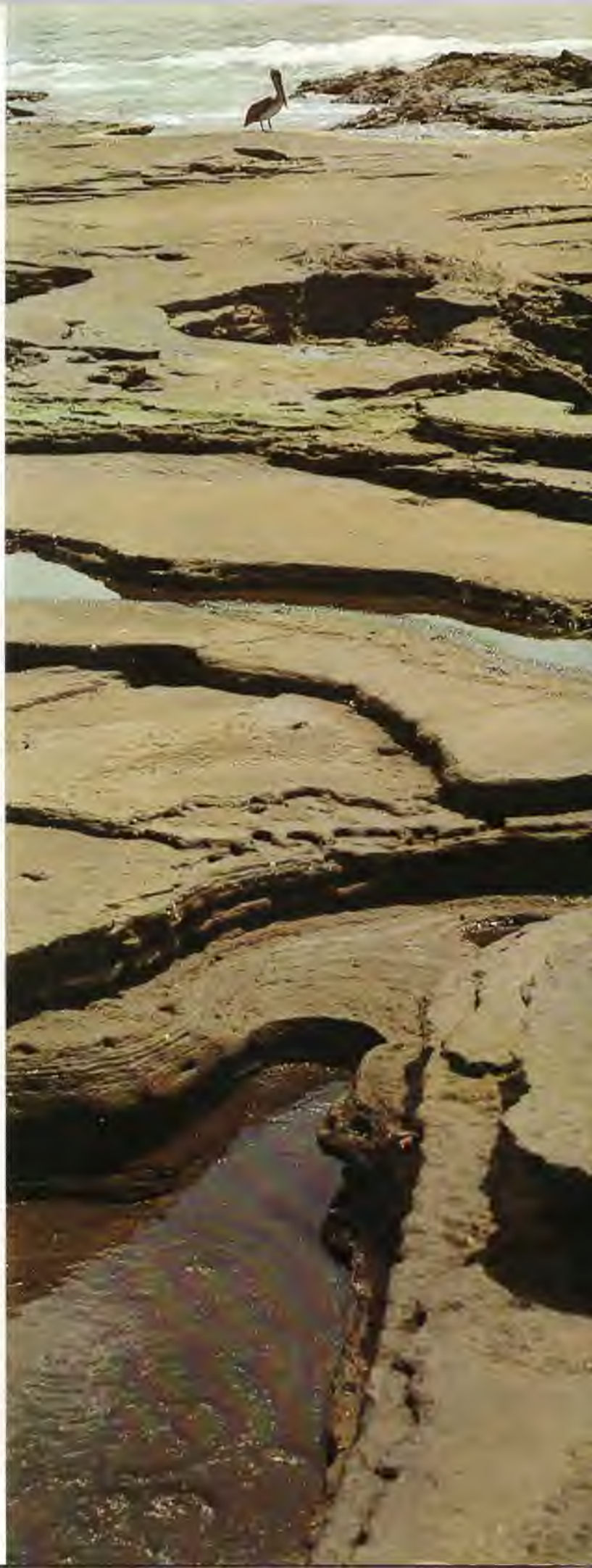
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The format issue

As is well known, there is little point in arguing about good or bad taste. The various arguments for or against a particular format, however, are copious enough to fill the pages of this magazine. Now there are, of course, some who insist on their own standpoint. This is perfectly acceptable so long as it refers to a particular field of application. Otherwise, fixation on a particular format is no longer defensible today.

Now as readers know, this magazine has its definite views on the format issue, although they are by no means unchangeable. The emphasis lies on medium and large-format photography, since the subject treated is applied photography. A particular kind of photography is not necessarily restricted to one format. The experienced photographer, however, will know which format is appropriate for a particular assignment. The 35-mm camera is regarded by most amateurs, and unfortunately by a number of so-called professionals, as having a universal format. Although it is true that the improvement in emulsions enables us to obtain better quality at high degrees of enlargement, the results are not always satisfactory even when processed expertly. In the last analysis it all depends how exacting the requirements are. Publishers of calendars or prospectuses will just not look at 35-mm originals. The minimum requirements here are at least 6 x 6 or 6 x 7 cm. It will be interesting to see whether the publishers take to the new 4.5 x 6 cm format. A good example of a camera which uses this format is the new Zenza Bronica with electronic exposure control and interchangeable magazines. The use of a high-resolution lens combined with the new Kodak X Ektachrome E 6 may convince many a sceptic of the future of this format. The renaissance of the 4.5 x 6 cm format will certainly cause some people to reconsider their standpoints. Even from the point of view of film economy, the re-birth of this format is most interesting. Up until now fashion photography is the field in which the 6 x 6 medium-format camera has dominated. If the report is correct, Mamyia and Zenza Bronica seem to be more than content with sales of their new cameras for this format. It will be interesting to see if Hasselblad come up with something new at the 1978 photokina as expected. The success of this format depends, when all is said and done, on the reaction of the picture buyers.

That which was regarded as a dream a decade or so ago has been realized in the last few years, step by step. For 35-mm cameras there are now 500-mm telephoto lenses which are as compact as the conventional 135-mm lens. The wideangle craze seems to be going down, and a number of shift lenses

are being offered on the market in order to get perspective correct again. True, these special lenses do not compensate for all manner of distortion but they are a step in the right direction. At last the owners of certain 6 x 6 cameras will be able to buy a zoom lens, the f 5.6 140 to 280 mm Variogon from Schneider. Motor drive and electronic circuitry in the medium format is more or less taken for granted now.

Practically untouched by all these stormy developments, work with the larger format cameras, such as the Technikas and view cameras up to 8 x 10 in., goes on as usual. Here the classical techniques of photography hold their own, without any converging verticals but with definable depth of field, exact detail and good color saturation, thus a field in which the Scheimpflug condition and other laws dictate a solution of problems on hand.

Let us take a look at the issues facing the sports photographer, for instance; these are not a question of format. It cannot be denied that the majority of interesting action shots have been taken with an automatic 35-mm camera through a powerful telephoto lens, since even today there are really few long teles for medium-format cameras which can be focused rapidly. After all, speed, flexibility and economy are the most obvious advantages of a miniature camera. But to be really absurd, what professional would seriously consider using a 35-mm camera, or even the medium format, for assignments such as architecture, industry, or science?

Every format has its definite advantages and ideal field of application. Successful professionals will be found to work with cameras of all formats. He is unlikely, for example, to shoot a nude study with a 4 x 5 in. view camera. We have all seen outstanding nude photography taken in formats as small as 35 mm. On the other hand, many a lively advertising photograph, one which has nothing static about it, was shot on 5 x 7 in. sheet film. Publishers of landscape calendars expect 5 x 7 in. or 8 x 10 in. transparencies from their suppliers, and this is what they get. In recent years the medium format has become increasingly popular in sports photography, with the possible exception of football. Photo experiments are often carried out in a large format when subsequent manipulation is planned; on the other hand, 35 mm is more economical where the results of abstraction processes are not predictable or for sandwich techniques. These examples should suffice to show how contradictory the situation is, and there must be few photographers who have not completely changed their format policies within the space of a few months. It is interesting to observe that the users of photographic apparatus have not really changed their viewpoint; it is the great improvements in technology which have brought the format boundaries in motion. Not only the manufacturers profit from the fact that the up-and-coming amateur is now trying his hand with a larger format and the view-camera expert has acquired several 35 mm instruments. Thus, the rigid format front has begun to give way. The editors of International Photo-Technik also wish to avail themselves of this opportunity and have decided to present their readers, from this number onwards, with the entire spectrum of photography from 35 mm to 8 x 10 in. M. W.

◀ The traveling dispensary illustrated here was already 100 years old when the well-known color manufacturer Hoechst first entered the field of pharmaceuticals production in 1883. The photograph actually came from the archives of the firm Kalle, Niederlassung der Hoechst AG, who likewise started production of medicine in Biebrich in 1885, continuing this line until the 1920s. The present owner of this curiosity is a druggist, Peter Heilmann of Mainz.

The illumination of large interiors



In this instance the French photographer Candellier-Brumaire found he could not manage without additional illumination and set a softened spotlight obliquely from the top aimed at the plant.

The illumination of large interiors

by K. P. Exner

Just like most other fields of applied photography, interiors call for careful observation of each individual object included in the scene. It is necessary to discuss an assignment in detail with the client before commencing with the actual photography. Sometimes he will just tell the photographer the reason behind the photograph and give him a free hand. The client will usually want the subject shown in a favorable light, or more beautiful than in reality if possible. He is not in the least concerned about the difficulties involved in realizing his wishes. That is the photographer's job. However, it is also the photographer's job to point out the various possibilities and to *advise his client generally about the amount of light and materials needed*. It is possible, for example, to alter the character

of a room considerably according to whether the lighting is high key and flat or low key with spot-lighted accents. In many photographs of interiors one sees in magazines one cannot help feeling that the photographer never thought of taking a look at the room again in the evening.

On a new assignment I usually proceed as follows: first of all I find out if daylight is more appropriate or whether artificial light is essential. I then determine the most favorable viewpoint to get in the essentials of the scheme. Since the majority of objects are seldom perfectly illuminated (day or artificial), my main tools when working by daylight are, apart from the camera, electronic flash units and fill-in screens about 6 feet wide. For night location work I take along floods, spotlights and white screens. The photographer should not be afraid of using every means at his disposal to show the room in an effective and interesting atmosphere.

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A uniform, frontal illumination is usually insipid and the interior — which is, after all, three-dimensional — looks flat and boring. It is clear, however, that when a window is opposite the camera and I am obliged to shoot *contre jour*, I will use a frontal fill-in light to reduce the contrast to a level with which the film emulsion can cope. For this purpose I sometimes use flash direct, but I prefer to bounce it from white card, since otherwise the subtle light from the window (the main light in this case) would be "drowned". We have all seen photographs where the atmosphere has been killed by too strong a dose of flash released directly, and reflections will be a further consequence.

Quite apart from this, there is a big difference whether one is working in black-and-white or color. In the latter medium, in which I just work at a fairly high contrast ratio, a compensatory development is carried out in the lab at the processing stage. The surface-development method can be stretched to over 30 minutes and progress inspected visually provided the film has been desensitized beforehand in a solution of pinacryptol green. I know this is a lot of trouble, but if one wishes to raise one's work above the standard of the general mass of photographers today this is the sort of thing one just has to do.

Since in color photography individual processing is hardly possible, I take care at the exposure stage to keep contrast within the limits dictated by the film and paper.

For reasons of resolution and quality I only use reversal film for color photography — even when prints are required; they are enlarged directly from the transparency. Unfortunately the black-and-white resin-coated papers have also become softer in gradation, although the manufacturers dispute this. Comparative results achieved by freelance photographers (and not the industry concerned) prove the point quite clearly. When color is used for interior photography it will be found that, in spite of filling-in, longish exposures will result, especially for the large-format photographer with his smaller apertures. Here it is better to use artificial light film and convert the color balance to daylight with filters. One is then likely to have less trouble with reciprocity failure.

Continuation page 13

With the possible exception of the side portions, this is a perfectly illuminated interior shot. Agfa-Gevaert Picture Library. ►

The theater in Darmstadt; taken by H. G. Göllner of Frankfurt using a Linhof Technika and 65-mm Super Angulon. 4 x 5 inch Agfacolor negative film, 60 sec. at f 11; ambient illumination only. ▼









The library of the Collegiate Church in Admont, Austria.
Photo: O. Ziegler, Schwabach.

Technorama



This Technorama shot was taken by a Linhof staff photographer in Nymphenburg Palace, Munich. The illustration demonstrates the original format of the Technorama camera, 6 x 17 cm/2 1/4 x 6 3/4 inch. The left-hand photograph might serve as a comparison; it was taken with an 8 x 10 inch camera.



For those who work with large-format cameras there is a most useful accessory which I would not like to forego mentioning: the vacuum film holder. I have so often had the experience, especially during long time exposures, that the film buckles. The photos have to be repeated at a later date, of course. The extra price of vacuum-type film holders is inconsiderable in relation to the expenditure involved in repeating an assign-

The very soft illumination does justice to the materials shown. In spite of the vivid shade of orange there is only a very small amount of irradiation in evidence.

Photo: Hans-Peter Exner, Baden-Baden.

The original for this reproduction was a 5x7 inch transparency in the colors white, blue; the illumination is excellent, right into the corners of the motif. This also applies to the reflections on the water.

Photo: Hans-Peter Exner, Baden-Baden.

ment, if this is at all possible. In the accompanying photos of the swimming pool this is exactly what happened to me. The differences in temperature and humidity were so great that the sheets of film popped. The location was 330 miles from my studio. Fortunately, I was familiar with a custom lab in the neighborhood and they confirmed my fears before I left for home. I had no alternative but to remain the night and repeat the whole series the next day.

Since the photography of interiors for architectural purposes is seldom of a journalistic nature, there is every reason to work with an *adjustable* view camera. Apart from perspective controls, a further decisive advantage is the fact that one can expose individual sheets of black-and-white film and give each a special development according to the subject contrast. When buying lenses for such technical cameras it is essential to ensure that the coverage of the lens is more than adequate for the standard adjustments envisaged and that it is free of distortion. The range of lenses on the market may not be very large, but the quality is uniformly high in practically all cases.



Foodphotografie



▲ A 6x6 shot taken by K. Köhler, Idar-Oberstein, on Agfachrome 50. The original transparency, of white and beige hues, has lost little in conversion to a black-and-white reproduction.

Food photography is not only required for advertising food-stuffs; there is also an increasing demand for good illustrations for womens' magazines and for cookery books, a subject which has proved a top-seller in book stores in recent years. Yet, let it be pointed out, this is a field for the full-time professional. The serious amateur who wishes to try his hand on this theme should study the relevant lighting techniques and camera perspective controls.

An outstanding photograph to tickle the palate, tasty and sharp, and pleasing compositionally, too.
Photo: Guy Marché, Straßburg. ►





There is probably no other branch of applied photography in which an aesthetic approach is of such decisive importance. It would have a disastrous effect on the potential consumer if such photography failed to appear appetizing in any way. This means, for example, that when working in the black-and-white medium, careful attention should be paid to "clean" presentation. Harmonious arrangement is also not enough: the direction of the lighting must show the product to good advantage. It is in the darkroom that the weaknesses of a negative are first noticed, and then it is too late. It is a fallacy to think that a large-format negative must also be cropped tight. Sometimes it is better to decide on the final section at a later stage and thus achieve greater enhancement. Remember: Less can be more!

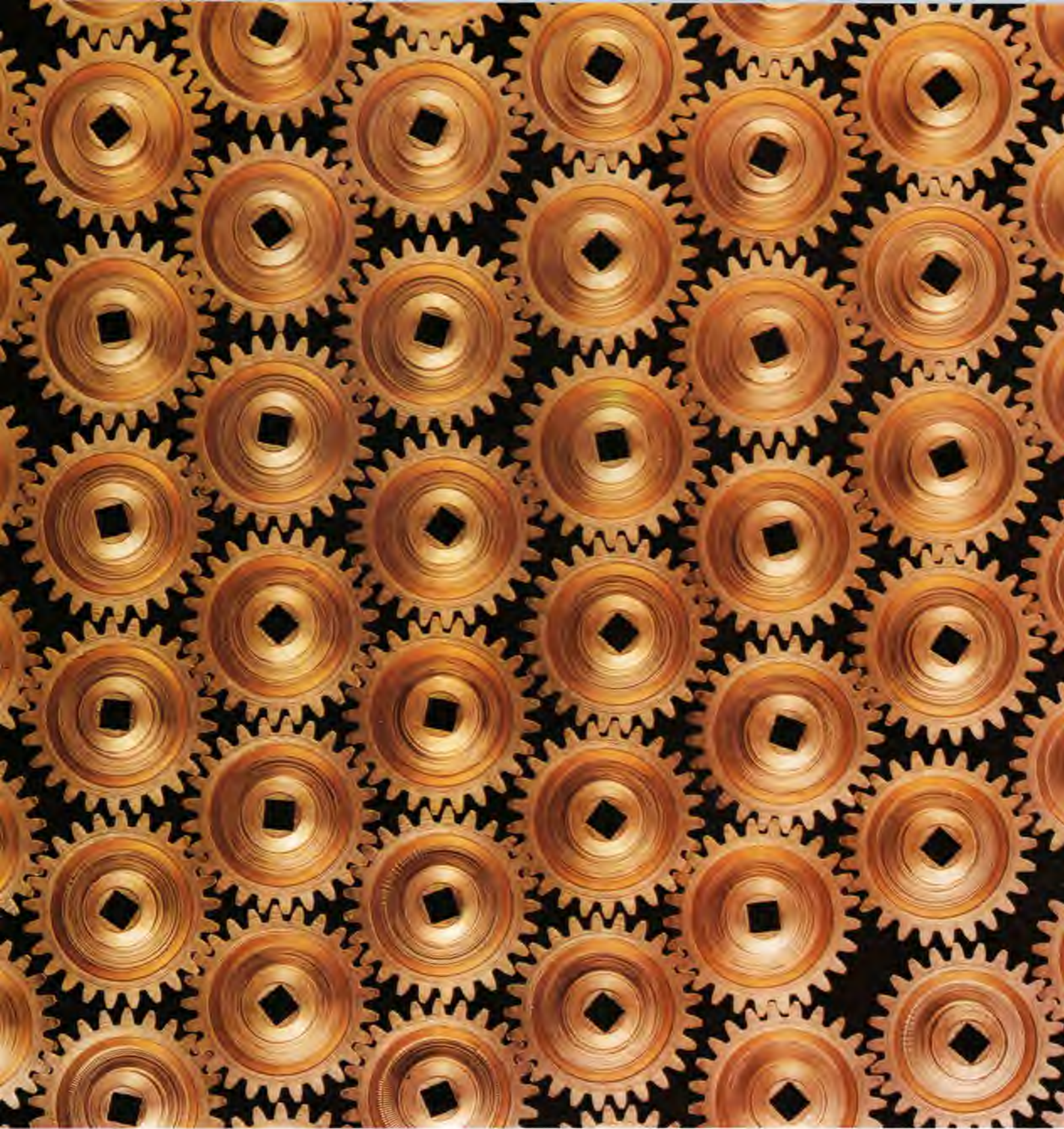
Fotostudio Teubner, Füssen. ▲

◀ Köhler Studios, Idar-Oberstein. Our daily bread, a well-worn theme, but presented in a fresh manner

This culinary sandwich was created in the King Studios, Boston, USA., 5x7 inch Kardan Color, 300-mm Symmar, f32, on Ektachrome film. ▶







▲
The only guarantee for reliability in industry is the use of carefully matched parts. But this principle is also true of the above photo taken by Blondiau of Agfa-Gevaert. The photographer has succeeded admirably in "meshing" the components: contents, color, composition – and to the client's satisfaction. The color page on opposite side was taken by Mr. Schlosser.



Soon it will be sundown. We are sitting with eight other parachutists in a helicopter of the US Army. The pilot has reached cloud level. My altimeter on the reserve parachute indicates 3280 ft. This is not sufficient height for our programme, the formation of a star by eight men falling in free flight. The pilot searches for a break in the clouds, finds a way and raises the nose of the machine.

A murmur of astonishment ripples through the crew. I look through the open door and grasp the scene – paradise could hardly be more beautiful. The billowy white clouds undulate below us. The setting sun rests like a golden dish at the edge of the dark blue sky. It is that depth of blue which one only sees above the clouds. I can hardly get my fill of this serene picture which seems to stretch into infinity.

All of a sudden I am jerked back to reality as somebody shouts "stand by!". We have now reached the necessary altitude of 12,464 ft. I stand up and once again check the correct fitting of my parachute. The parachutist at the door gives the pilot a few last instructions by hand signs. Now the approach path of the plane is absolutely correct. One can read the tension in the face of every jumper as he waits for the sign.

Three – two – one – go. The men file out of the helicopter. It has to go very quickly, otherwise the last jumper, who leaves the machine one to two seconds after the first man, will have to catch up too much difference in height. I drop through the door and the air hits me in the face. Below me I can see how the other men slowly gather to build up the star, picked out



The altimeter on the reserve parachute shows an altitude of 1600 meters (5248 ft). The photographer then gives a signal with his right hand that there is still time to shoot a few pictures (in this case with the Linhof 220 PL).

With the camera between heaven and earth

A "line" of eight parachutists is a very difficult configuration to form, since it is one of the most unstable; text and pictures by H. Herold.



clearly against the white bed of clouds. While pressing my arms against my body, I reduce the resistance of the air and thus fall at a greater speed than my colleagues below me. By means of corrective movements with the arms and legs, which look rather like swimming, I guide myself closer to the star. I will have to check my speed from approximately 150 mph to approx. 108 mph at the right moment by stretching out my arms and legs. Seven parachutists have already joined hands. With great concentration I work myself closer to the star and at last it is complete. A feeling of great relief passes through my body. Eight men are now falling in the shape of a star towards earth. Eight men who experience at this moment a feeling of incredible freedom. They feel how immense and wonderful the heavens are, untouched by problems of human overcrowding.

Yes, descending by parachute is not only a circus number, such as one sees at air shows and similar festivals, but it is the nearest we can get to experiencing the most beautiful and unspoiled region of our planet, the heavens.

Although the descent is repeated time and again in the same manner, the impressions are always new. They are impressions which only the parachutist can savor who has taken part in events such as described.

The very first prerequisite for the photographer between heaven and earth is that he must also master the technique of "flying" in free descent himself. After all, he will have to leave the plane together with the other parachutists whom he wishes to photograph.

When selecting a camera, he will first of all have to decide between hand transport and motorised apparatus. It has proved to be disadvantageous to have to hold the camera in one hand, since he will require both hands as well as his feet to guide his passage through the air. One must be capable of descending faster or more slowly than one's colleagues and also change direction accurately.

This makes the decision for a motor-driven camera imperative. For amateur purposes a 35-mm camera is perfectly adequate, anyhow. Reliable instruments in this format are: Minolta SRM, Minolta XM motor and Nikon motor. Professionals prefer to use the 6 x 6 Swedish Hasselblad fitted with Zeiss lenses. The most appropriate focal length for this kind of photography is 28 mm for miniature cameras and 50 mm for the 6 x 6 cm format. When the decision tends to an even larger format, the best range of suitable cameras is offered by Linhof of Munich; most of the models do not have motor drive, but the picture quality is outstanding.

The final decision will have to be taken by the photographer himself. He will have to carry the burden, in the true sense of the word. The Hasselblad 500 EL/M weighs about five kilos. When the parachute opens, the free descent is braked from approximately 200 kph to about 10 kph. Such deceleration forces have the effect that the weight of the jumper and his equipment increases by approx. five times. This implies that the weight of the Hasselblad suddenly soars to about 25 kilos. In order to try and reduce this load, a special aluminium and plastic housing was constructed around the camera. The latter was then incorporated in the right-hand side of the parachutist's helmet. On account of the modest leverage effect, the load was kept within reasonable limits. The "finder" takes the form of a lens and a reflected Newton's ring which is positioned in front of the photographer's eye by means of an outrigger. The visor is adjusted in such a way that the center point of the camera finder frame coincides with the center point of the Newton's ring mentioned.



Focusing and aperture setting take place on the ground whilst the team is practising its formation. Nothing can be adjusted during the descent. 1/500 sec. is an average exposure for such photography. It is therefore of advantage to be able to develop one's own films, since it is possible to adjust the processing times to sudden changes in weather conditions. When the team meets again after a jump, it is always a thrilling moment when the photographer hands around his pictures. It is not only interesting for spectators on the ground to get a close-up of the star forming; also the parachutists who took part can once again experience the thrill in all its phases. It is the job of the photographer to catch this brief, wonderful moment, as men glide between heaven and earth.

During a competition a participant has an opportunity to show that he has complete control of his parachute. Here a competitor is landing exactly in the center of the target.

The American aces won the Gold Medal in the World Championship in Rome in 1976. They are genuine wizards at "steering" with their parachutes.









This beautiful harebells have been placed here as an interesting contrast to the exotic plants of the page opposite, Imber Studios, Laufen/Switzerland.

***The illumit* Artistic forms in nature II**

Ideas and design talent are well rewarded nowadays, especially when they bring about a satisfaction of the feelings. We know from the theory of chromatics and its application how deeply man can be influenced in his reactions and behavior. What is therefore so difficult about selecting the right design forms to surround ourselves in our homes, work places, housing schemes and parks? When confronted daily with various

objects, utensils or buildings, we either react positively or feel instinctively frustrated. Many of these objects are sober constructions, cool, unharmonious and sometimes even repelling.

Other configurations and shapes cause a pleasant feeling within us, and when we analyze the cause we find that the latter have, in some way or other, been based on the distinctive features of nature.

Many a generation has created monstrosities in art, architecture and fashion. It is good when one has a sense of humor; at

◀ Bananas growing wild in Brazil. Photo: E. J. Javorsky, USA

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least one can then laugh about such excesses. In many of these off-beat art forms one can recognize an attempt to renounce nature or, at least, depart from her laws. Why, indeed? Nature is neither monotonous nor lacking in expediency and, essentially, all durable and permanently successful forms in design originally drew their inspiration from classical and natural modeling. Compare a case in architecture: today atrium villas are being built, and set in the same harmonic arrangement, as in the days of Pompeii.

As far as our living culture is concerned, the individualist amongst the more intelligent group of society once again prefers natural materials such as wood, iron, stone natural fibers and plants.

Nature is not likely to disappoint us often. Seldom do we tire of her manifold ways. Her colors and forms will remain the guiding elements also in future. Photography maintains close relations with nature and her artistic forms. The photographer aware of this will have his camera at the ready in the countryside. Decisive on such an occasion will be the play of light and shade and the harmony of colors. If the "straight" results should fail to please, there remains the whole palette of modern abstraction techniques; one begins to experiment. Although the abstract results may appeal at first, there comes a time when their novelty wears off and one begins to question the value of such manipulations. A violet-colored cow or zoomed meadow flowers may be appropriate in advertising.

A straightforward, strongly-composed nature study with clear lineation which appeals spontaneously to the eye is not all that easy to produce. Try it yourself if you can stand a little criticism. Send in the results to the editor. Perhaps he might publish it if you have been successful.

◀ The web of the spider attracts the attention of a wide variety of professions, from the scientist to the graphic artist. The former's interest may be mostly mathematical; the latter has often been inspired by its patterns to works of art.

This filigree splendor on page 29 decided the fate of the peacock. It is now protected by law in many countries. The tail feathers were highly coveted even in the days of the Aztecs. In the National Museum in Mexico City one can see an Aztec crown fashioned from over 200 feathers from the tail of this wonderful bird.
Photo: E. Grimm, Achern.

Many an architect would do well to take such harmony as this as an example for his daily work. The original was a 6 x 6 transparency in the colors white, beige and brown.
Photo: P. Rong, Landau. ▶



We have printed these two pages in the hope that they may serve our readers as an inspiration. True, cacti of this kind may not grow in everybody's back garden, but similar subjects are within the reach of all. Experience has shown that in nature photography it is preferable to use telephoto lenses or to work at close quarters with macro lenses. In view of the importance of fine detail here it is obvious that only high-resolution lenses and films are worth considering. Whenever a photographer specializes he has the advantage that he gains practical experience in the most appropriate techniques for his field, and this is the key to perfect and reliable results. Picture series with a specific theme are actually easier to sell than those of "general interest", no matter how excellent these may be on their own, since they do not fit into any topic which the editor may be working on. The majority of photos could also have been realized with a 35-mm camera.

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Such splendid specimens are to be found in the diving paradises of the Caribbean Sea or the Maldiva Islands.
Photo: Hesselmann, München.



It is the camera which really brings out the beauty inherent in such masterpieces of nature. And the ideal format here: 6 x 6 cm. Photo: Klaus Hackenberg, Laufen/Neckar.

This delightful blue-tit was "captured" in the path of an electronic light trap. Taken with a 6 x 6 SLR and Braun flash unit remotely released by light barrier. Such photography calls for much patience and lengthy preparations.
Photo: Paul Genest, Paris





Amethyst with agate core; often it is the other way round.

Photo: K. Köhler.



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The development of the electrodynamic levitation system EET 01

Since the beginning of 1972 three large German electrical firms, AEG-Telefunken, BBC and Siemens, have been carrying out research work jointly on a new kind of high-speed long-distance transportation: a track-bound vehicle with electrodynamic levitation is to fill the "gap" between conventional rail and air travel. This implies in the speed range between 180 and 360 mph. The three firms have contributed their know-how to a project group with headquarters in Erlangen where testing of components is now being carried out. This group coordinates the work of the scientists, engineers and technicians engaged in the project which is being sponsored by the Federal Ministry of Science and Technology.

The electrodynamic suspension and track guidance system differs basically from other contact-free transport systems as far as the generation and reaction of the magnetic forces which cushion and propel the vehicle are concerned. In contrast to the electromagnetic principle in which unstable forces of attraction are utilized, the electrodynamic system employs stable repelling forces. With the aid of superconducting magnetic coils on the underside of the vehicle, powerful magnetic fields are generated which are capable of raising the vehicle 6 to 8 inches – an ideal levitation height for safe operation at high speeds. During travel, the magnetic fields also induce eddy currents in continuous aluminium reaction rails along the track which, in turn, build up powerful magnetic repelling forces.

The use of superconducting coils also provides the opportunity of sustaining the magnetic fields – and hence the state of hover – at a constant level without supplying current from an outside source; the term "superconducting" means that certain metals can conduct current without the usual loss of energy, provided they are cooled to a temperature approaching absolute zero (-273°C). Once it has been generated, the current continues to flow at a constant value, as long as effective cooling takes place as mentioned. The various technical components of the new transport system are being tested stage by stage on a concrete track specially built for this purpose at Erlangen. The track at the Siemens, Research Center is circular and has a diameter of 918 ft; it is circular

because, as opposed to a straight section, it permits endurance tests to be carried out. C-shaped prefabricated concrete supports, each 19.6 ft long, and inclined at 45° , are supported by 144 columns, making up a total of 10,000 tons of concrete for the entire ring.

The experimental vehicle EET 01, which weighs 16 tons and is 13 ft broad, was built by MAN Nuremberg. It will cover 2952 ft in one circuit of the track, requiring its 16 pneumatic tires during the testing of individual components. It will also need these wheels for the "landing and starting" phases of the full levitation trials in the fall of this year. For several months now the individual components have been tested at varying operational speeds; for example, the power transmission via 6 conductor rails on the inner side of the track and contact-type current collector; the electric drive which pays due heed to protection of the environment (this consists of an electronic frequency changer and the linear motor weighing 3000 kg); the running characteristics and other functions. The superconducting coils and the cooling plant, a liquid helium system designed by the firm Linde, have been subjected to stationary tests in the meantime. Eight coils of this type – measuring $51 \times 23.6 \times 15.7$ inch – will be required for the EET 01 vehicle.

The trials on the circular track are being carried out without a driver. Beside the track there is a central control building from which the EET 01 can be operated remotely. Up to 150 different values can be automatically monitored, transmitted to the central control desk and recorded for later evaluation. Transmission from the vehicle to the control building is by means of radio. In addition, television cameras also accompany the vehicle and transmit pictures and data.

In view of the high centrifugal forces set up, it is necessary to restrict the maximum speed on the circuit. With the starting and landing devices in operation, the maximum permissible speed of 230 kph/138 mph was already reached a few months ago. The knowledge at present being gained at the Erlangen track serves as the foundation for future trials which will one day lead to an operational speed of 300 mph. This is the speed at which the electrodynamic levitation train of the future will glide across the country.



Paper roll cutter

Durst are now in a position to supply a paper cutter to supplement the ACS printers. Assuming a maximum working width of 310 mm, the new 310 SA can cut off prints in any size from 9 x 9 cm/3 1/2 x 3 1/2 in. up to 30 x 40 cm/11 x 14 in. from the roll in the machine. The cutter is operated by means of a foot switch, and it is also possible to carry out minor adjustments to the paper feed manually.

The 310 SA is capable of handling up to 2000 prints 8 x 10 inch in an hour. The machine is highly modern in conception, incorporating, for example, printed circuits in the control unit.



Durst (UK) Ltd., Felstead Road, Epsom, England.

METOFORM 65

An automatic processor for high-speed development of black-and-white PE and RC photopaper, phototype and lith films in formats 4 x 5 up to 19.6 x 23.6 inch. Processing time from dry to dry takes only about 3 minutes. In view of the high capacity of the machine (655 prints 5 x 7 inch per hour), it is particularly suitable for establishments which require a large number of prints within a short space of time.



METODRY 35 METODRY 65

These are the designations of two heavy-duty warm air dryers with either 13.7 in. or 25.5 in. as working width. Both models are of compact dimensions for placing on a table and are intended for continuous handling

of PE, RC papers, lith film and similar materials. A thermostat takes care of temperature control, and feed rate may be steplessly adjusted. These features make the machines ideal for a wide variety of materials from different manufacturers which have to be air-dried.

METOMERZ

This is the new trade name under which the Oberelchingen manufacturer will be marketing the "Meteor-Siegen" line of film processors in the Federal Republic of Germany and West Berlin. The range of machines comprises two main groups:

1. Universal developing machines of the rotary type, five models with different capacities, working width from 50 to 75 cm. Four of these are provided with facilities to accept a punched card programming unit.
2. Automatic processors for PE and RC color paper or similar coated black-and-white paper. There are three groups of models, their working widths being 58, 78 and 138 cm. All of the latter automatic machines have an integrated hot air dryer.

Multiblitz flashmeter MB 100

A reliable, budget-priced meter for measuring electronic flash over an acceptance angle of 180°. ASA values from 25 to 400 graduated in whole aperture numbers. Needle drops back to zero after taking reading. F-numbers from 4 to 22 graduated in values of 1/3 f-stop. A special feature of the MB 100 is a switch for reading ambient light. Several thou-



sand readings may be taken from the 5.6 volt battery before thinking of renewal.

Projection attachment for the Multiblitz Mini-Spot 200

For the above projector/Flash unit there is now an attachment by means of which slides or various patterns may be thrown against a suitable background. The projection attachment has an integrated, focusing lens system and is provided with a slit for color gels, metal grids, etc. It is rapidly mounted on the front of the Mini-Spot 200. An ideal combination for portrait and product photography.



H. P. Marketing Corp., 98 Commerce Road, Cedar Grove, N.J. 07009

Cool storage for films and photopaper

It is the usual practice to keep color film in an icebox. For dealers and large-scale film users, deep-freezers



or refrigerators of domestic proportions are just not large enough. An ideal climate for the long-term storage of film and paper is provided by the Viessmann Cold Cell. This type of man-high cold storage room is available in ten different sizes. The

temperature may be set anywhere between zero and + 15° C (32 to 59° F). Goods removed at these moderate temperatures are not subject to condensation and can therefore be immediately unpacked. The prefabricated walls consist of a sandwich of aluminium and polyurethane foam plastics. A special shelf system permits a variety of combinations so that the available space can be adapted to accommodate different sizes of goods.

Compact continuous dryer for RC papers

This continuous drying machine for resin-coated paper will fit into the smallest lab. Drying takes place by means of a novel system of circulating warm air. Although the rate of trigger a test flash from the most favorable position and take a reading temperature of 80° C.



Kindermann, div. EPOI, 623 Stewart Ave., Garden City, NY 11530

Greater mobility in flash measurement

As a supplement to their flash exposure meters "Sixtron Electronic 2" and "Sixtronet", Gossen have introduced a manual release device by means of which a test flash may be triggered for measuring purposes.



The press-button release affords the photographer greater freedom to move about when using studio electronic flash, because he can now trigger a test flash from the most favorable position and take a reading there. All the photographer has to do

is to connect up the sync cable of his flash unit to the hand release and press the button in order to obtain a test flash — irrespective of where he is standing in the studio. The release may be directly fastened to the flash meter if desired.

Traveller Kit C 70

For their compact flash unit C 70, Broncolor have now produced a practical transport case. A tough outer shell encloses vacuum-shaped inner padding designed to accommodate a complete set of lamps for illuminating subjects on location.



There is space for three powerful lamps of the C 70 type with protective hood, reflector and stand. Including the customary accessories, the whole case weighs a mere 44 lb.



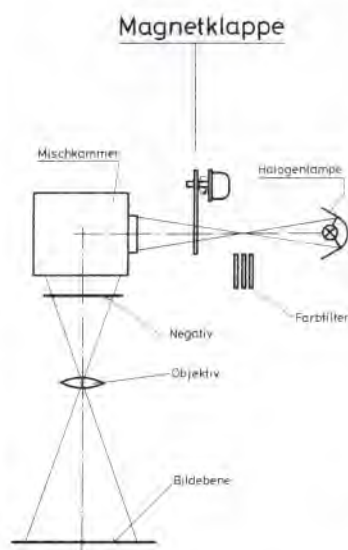
20 color prints a minute — or just three

Linhof have developed an easy-to-insert device for their Color 45 Enlarger which makes very short exposure times a practical proposition. Why all this trouble?

Halogen lamps are now the preferred source of illumination in color printing. They have one disadvantage, however; they do not extinguish so rapidly as tungsten lamps but tend to glow for about half a second after times of about one to two seconds the result is a bias towards red in an otherwise correctly filtered print. At

exposure times of over ten seconds the lamp burns at full power sufficiently long to counteract the effects of afterglow. Let us assume, however, that a series of postcards has to be printed, a job where short exposures are within easy reach. To avoid the above detrimental effects, we would still have to stop down the lens sufficiently to arrive at an exposure time of ten seconds plus.

What Linhof have invented for the Color 45 is a magnetically operated flap which, rather like a shutter, shields the halogen lamp the very instant the current is interrupted (see diagram). This means that there is no longer any risk involved in short exposures and the saving in time will soon be noticed in terms of hard cash. The device is easily installed in existing Color 45 enlargers.



A genuinely remote release

Quite often a photographer finds it necessary to place a strobe at a considerable distance from the camera. This might be the case in wildlife photography — especially to capture birds in flight — or in numerous situations where the photographer's presence might be disturbing to animals. A remote release is also called for in certain kinds of technical photography where the photographer is prevented from approaching his subject due to power lines, protective barriers, etc. The solution in such cases usually involves setting up a flash unit at quite some distance from both the camera and the subject itself. Previously the release of the flash unit required

a sync cable between camera and lamp. Broncolor's latest solution to the problem of long cables lying all over the place is a small infrared receiver. This remote release unit can be connected up to any type of conventional strobe light.

Although infra-red transmitters are available for direct attachment to the camera for studio photography, they are less suitable for the great distances involved here. The former IR transmitter is replaced by a so-called "flash transmitter". This is simply a second flash unit mounted on the camera and aimed at the infrared receiver. On tripping the shutter, the flash transmitter fires the main, remote flash unit via the infrared-receiver. The latter is sensitive enough to register the heat rays of the initial flash at distances of over 320 feet. To give a rough indication of the possible ranges: with a guide number of 65 sensitive up to 295 feet; with a guide number of 98 up to 426 feet.



Bron Elektronik AG., CH-4123 Allschwil

More light! (Goethe)

A technician at the GTE Sylvania laboratories in Erlangen, Germany, checking the emission of a DXX lamp (225 V, 800 W), a type of bilateral projection lamp to be found nowa-



days in about 40 different models of overhead projector. The 22,000 lumen output of this kind of lamp also makes it suitable as a source of illumination in television studios.

When the technician closes the two halves of the metal sphere, the white interior surface of the latter reflects the lamp emission from every angle. With the aid of a photocell, he can check that the distribution is even throughout the vital region. A standard, calibrated lamp serves him as a guide. Sylvania claim to be the largest manufacturer of projection lamps in the world: one of their achievements was the development of the first machine to automatically weld the molybdenum lead (A) of the DXX lamp.

The search for new sources of energy continues Linhof cameras play their part

There is hope that the use of high-efficiency, pulsed lasers might open the way to "cleaner" nuclear reaction and thus help to ease the controversial issue at present centering around the construction of atomic power stations. The Laser Research Group at the Max Planck Institute



in Garching near Munich has assumed a leading role within a world-wide research project. To assist their investigations into the interaction between light and plasma, the scientists have also incorporated Linhof cameras in their complicated laboratory plant. The cameras will help the scientists to record processes which take place within the incredibly brief space of $1/1,000,000,000$ sec. The illustration shows a Linhof Technika mounted within experimental plant extending over several rooms at the Garching Laboratories.

For those high-caliber telephoto lenses

It is a well-known fact that the heavier the camera, the more exacting are the demands placed on the tripod and panhead. Quite disproportionate, on the other hand, are the demands placed by telephoto lenses of increasing length. Even a 200-mm lens on a 35-mm camera is too long for the average amateur tripod if really sharp results are expected. Linhof took up the challenge issued by the latest super telephoto lenses of 1000 mm and more and developed a light tripod with an integrated



panhead in the form of a leveling spherical cup. The 7-lb dual-shank tripod is fitted with cross-braces to steady the legs and a 20° omnidirectional tilting camera platform (the maximum height without geared centerpost is 55 inch; in the illustration the legs are half extended).

Seeing that the physical diameter of the leveling socket amounts to over 100 mm and the camera (resp., the lens as well) is secured within the imaginary sphere circumscribed, the stability achieved is actually equivalent to that afforded by a ball-and-socket joint in which the ball has a diameter of over 20 cm!

And that is the big secret behind this reasonably-priced tripod which requires no additional monopod support even for the most powerful telephoto lenses.

A budget-priced 5 x 7 inch camera from Linhof

The increasing trend towards 5 x 7 for color portraits and high-quality

landscape photography has resulted in a keener interest in cameras for this large format. Two of the main arguments which potential buyers had against cameras of this size — cost and weight — have been squashed by Linhof with one blow. The latest addition to their range of 5 x 7 inch cameras is called the "Kardan Standard 13 x 18" and has been developed from the well-known 9 x 12 cm/4 x 5 in. model of the same series. With a definite field of application in mind, the designers decided on a rigid type of rear standard. The front standard has been provided with the full range of movements to be found on the 4 x 5 inch Kardan Standard, thus making the camera suitable, with certain reservations, for architectural and product photography, too. The back may be detached to position it in a horizontal or vertical mode and is also fitted with a lift-off handle to facilitate insertion of the film holders. The mounting facilities of the lens and rear standards are so designed that they integrate in the Linhof accessory system; this means that available parts, such as reducing adapters for smaller film formats, will still be of use in conjunction with the new camera. Polaroid film may also be used with the aid of the new reducing cassette for this purpose.



As the camera is supplied with the monorail withdrawn in a dismantled state weighing a mere 8.6 lb, it will be immediately obvious that it fits, together with lenses and film holders, into a small flat case. On account of the greatly reduced weight of this 5 x 7 camera, only a light tripod is necessary, so that such a combination now represents the ideal outfit for the fastidious landscape photographer, for example.

Philips PCA 060 Color Analyzer

Color printing is within the reach of any amateur today. The only remaining problem is how to filter color negatives correctly. Philips have joined the ranks of those firms which offer help in this direction in the form of their new Color Analyzer PCA 060. The time previously required for certain technicalities is now available for the more creative aspects of color printing. There is nothing difficult about using this analyzer; an "ideal" print is first of all made by sheer trial and error from an average negative. A test picture supplied by Philips may be used for this purpose, if desired.



The analyzer is then programed according to the values obtained. Once calibrated, the analyzer indicates the correct filtration for subsequent negatives. It is still possible to override the indicated filtration and, according to personal taste and type of subject, shift the color balance in any desired direction with the aid of a moving coil instrument.

Agfaprint Color Processors show the way

Many do-it-yourself color processing fans have had to forego the advantages offered by the continuous type of automatic developing machine for cut paper. The photographic industry did not consider it worth offering anything between the simple kind of manual apparatus (drums and trays) and the relatively expensive, dry-to-dry leaderless type of processing machine for the photofinishing trade. Both types proved, on occasions, to be uneconomical; the manual method because it was time-consuming and automatic processing because insufficient orders came in to defray overhead costs.

If an investment was made in spite of a doubtful prognosis, it often happened that the results were difficult to keep consistent due to the insufficient or irregular use of the machine. Agfa-Gevaert believe they have the solution to this problem in the form of their relatively inexpensive table-



top processors which incorporate many of the features of their larger brothers: recirculating solutions, electronically controlled temperature, automatic regeneration of all baths and, as an extra, attachable dryer which runs at the same rate as the processor.

One considerable advantage is that all the baths are of minimum possible volume, and even if the machine is not used to anything like full capacity, the automatic regeneration system ensures that fresh solution is rapidly pumped in as and when required. This means that the developer and the subsequent baths are always "compatible", and as a result picture quality is maintained at a high level even if the machine is used irregularly.

Two versions of the Agfaprint machine are available: C 37 and C 66. In each case the number indicates the working width in centimeter. The two drying units are listed as C 37 TR and C 66 TR.

The Agfaprint machine carries out the wet processing in about 6½ minutes including the final wash. With a dryer attached, the entire procedure lasts about 9 minutes. All that one has to do is feed in the exposed paper at one end and receive the dry, finished print at the other.

Copying at 1:1

A good tip for the owners of 35-mm SLR cameras is the reverse adapter offered by Hama. You can copy at a ratio of 1:1 at a distance of about 4 inch by simply reversing the standard 50-mm lens with the aid of the reverse adapter (no extension tube is necessary). In the reverse position, a standard lens gives sharper results.

The reverse adapter is not intended to entirely replace a macrolens or bellows unit. From the point of view of convenience and cost, though, it is a worthwhile accessory. In spite of having to keep very steady – the distance between object and lens is critical – it is still possible to work without a tripod.

Hama KG, Dresdner Straße 3,
D-8855 Monheim

A 50 x 60 cm vacuum frame at a reasonable price

Vacuum copy holders of the DIN A 2 category were previously only to be found on the professional market, and the price was in keeping.



True to their policy of continually extending their Reprocard System, Linhof introduced last year a DIN A 3 (30x40cm = 11.8x15.7 in.) vacuum easel of novel construction and were able to offer it at a reasonable price (approx. DM 350,-). There now follows a DIN A 2 vacuum frame (50x60cm = 19.6x23.6 in.) of the same basic design at an equally surprising price (slightly less than DM 800,-).

The double-metal-coated frame has six sets of format channels (in centimeter: 9x12, 13x18, 24, 24x30, 30x40, 50x60) which are controlled by a new kind of rotary valve. The air channels are so fine that there is no danger of even the thinnest materials being sucked in. A set of three interchangeable pins facilitates exact positioning of the paper or film in the dark. Even curled originals or several layers of copy in montage may be held firmly down with the aid of the reflex-free overlay foil. Subsequent repositioning of certain parts is still possible without disturbing the whole.

The illustration shows, at the front, the new DIN A 2 (50x60 cm) vacuum frame with six format channels

and rotary valve. At the rear is the DIN A 3 model (30x40 cm) with the suction pump which may be used for both easels.

H.P. Marketing Corp.,
98 Commerce Road,
Cedar Grove, N.J. 07009, USA

Hasselblad 2000 FC

Hasselblad's new system camera, the 2000 FC, was introduced to the European trade press in March. A more detailed report on this interesting camera will be published in our next issue. In the meantime, here are the essentials: The 2000 FC is the first 2 1/4 square camera with a top shutter speed of 1/2000 second. Operation of the camera is partly mechanical and partly electronic, thus combining a long tradition of precision engineering with the latest advances in electronic circuitry. The advantages of the new model in comparison to the 500 C/M:

1. Shorter shutter speeds, 1/1000 and 1/2000 second.
2. Longer exposures by means of a multiplier with a factor of 60, e.g., 1 second lengthened to 1 minute.
3. Intermediate settings between standard shutter speeds.
4. Double exposure prevention may be switched off.
5. Mirror now free of vignetting.
6. The Zeiss T* Planar F replaces the f 2.8 80-mm Planar as standard lens. The other new lenses are of increased initial aperture, e.g., 50-mm f 2.8 Distagon (formerly f 4), 150-mm f 2.8 Sonnar (formerly f 4). The new Zeiss 110-mm Planar F has an aperture of f 2. This improvement in light transmission is not only welcome for the actual exposure: it is also a pleasure when focusing.



The location of the focusing ring and distance scale nearer the front of the new F lenses facilitates focusing. The entire range of lenses for the 2000 FC will be supplied in mat black finish.

7. New manner of stopping down.

8. Greater extension for close-ups and improved coupling of aperture and speed values (Exposure Value System).

The former C-type lenses, with between-lens shutters, may still be used on the 2000 FC by simply setting the speed ring to "C". The new camera has a focal-plane shutter with curtains made of titanium; it is a self-contained unit within the camera housing and permits a flash sync speed of 1/90 sec.

Pocket-sized flash for the pro

Amongst Braun's range of flash units there are three fully automatic models with 90°-swivelling reflectors. These strobes are so



compact that they fit nicely into a pocket, yet they are powerful enough for serious medium-format photography out of doors, such as wildlife, botany and portraiture.

The manufacturer does not, of course, intend that the series 2000 should replace the larger models, for example, the F 900 Professional. As a supplementary unit which is no trouble to carry around, however, there is much to recommend this kind of compact strobe.

The guide numbers of the three models in the Series 2000 are: (100 ASA film) 110, 130 and 137.

They are powered by a NiCad battery which recharges, in the case of the 40 VCR, in as little as one hour. According to the aperture chosen,

the working range extends from 1 foot to 35 feet approx. Here one has the choice of f 4, f 8 or f 16. Re-cycling time varies between 8 sec. and 0.3 sec. The number of flashes per charge depends on the prevailing subject range, but will be between 45 and 2400. The Vario-computer ensures that only the amount of energy required for a particular subject is withdrawn from the circuit. It is possible to check whether sufficient power is available for a specific situation: if a lamp does not light up after releasing a test flash, go in closer to the subject or select a larger aperture.

The wide-angle reflector may be swiveled up through 90° for bounce-light illumination, leaving the photographer a free choice of camera position.

Braun North America, 55 Cambridge Parkway, Cambridge, Ma 02142

Rotary Viewfinder – ETR

The Rotary Viewfinder is one of the many interchangeable finders provided for use with the Zenza Bronica ETR and is an important accessory for the ETR System of Photography.

Attaching the Rotary Viewfinder to the ETR shows an upright image moving in the same direction as the lens, with reflex viewing from above, which makes it the ideal medium for low-angle view-focusing of fast-moving subjects, such as insects, small animals, etc.



The reflex viewing eyepiece section can be rotated 90° which converts the finder for reflex-viewing in the vertical format, with the ETR turned over on its side, as well as for eye-level viewing to the side or around corners, with the horizontal format. Or, the eyepiece section can be rotated to intermediate angles between vertical and horizontal, depending on the situation.

The accessory is provided with a large rubber eyecup for cutting out ambient eyepiece light which could prove distracting.



Scandinavian Tour

Toni Schneiders

One of the pleasanter sides of my life is that my profession permits me to travel to the north in the summer and spend time discovering the grand scenery of Scandinavia. Denmark, Norway and Sweden are surrounded by two seas which bring constant changes in the weather. This means that bad weather never lasts for very long, and the permanent wind chases delightful white clouds across the country, conjuring up a variety of atmospheres in front of the camera. And yet, it is not only the clear light in the north which attracts me, it is also the fiords and fields in Norway, the broad valleys with the tidy farmhouses, the typical churches, Europe's largest glaciers and the jagged west coast with its picturesque villages.

◀ The church at Borgund, Norway. The Borgund Church was constructed of vertical wooden piles in 1150 and is richly decorated with dragons' heads and masks from fables. Of particular interest is the west portal which is adorned with a carved creeper in the form of dragons fighting. 4 x 5 inch Linhof Technika with 6 x 7 cm roll film magazine attached; yellow filter plus polarizing filter; Ilford FP 4.

In summer the limber is brought to the northern rivers and then drifts south to the sawmills and the factories for processing. The scene is the Lille Lule Älv in Sweden. Hasselblad with 150-mm Tessar, Ilford FP 4. ▼

In Sweden I am drawn to the thinly populated regions of the north with their birch woods. Here the photographer's day lasts almost around the clock, and there is really still much waiting to be discovered. The larger cities offer not only amusement to those who seek it, but also visual treasures for those who know how to use their eyes. A tip for photographers: the province of Bohuslän and the large lakes.

Last but not least, there is my beloved Denmark which, although it already counts as Central Europe and is accordingly burdened with dense traffic, still retains much of its original tradition and charm. Magnificent Renaissance palaces, a steep chalk coast, delightful little cities (for example Aabeltoft and the peninsula Mols) — and everywhere beautiful beaches invite one to bathe. And then there is Copenhagen — only Paris is comparable! I confess I have possibly laid it on a bit thick about Scandinavia, but there are many who have shared my experiences when spending holidays in the north. In addition, journeys throughout Scandinavia are not so problematical as in certain other countries. There is a well-developed network of roads (although somewhat narrow in some districts), fast motorways, well-kept camping sites, a polite and indulgent customs and police and no prohibitions on photography — taken all in all, a tourist country par excellence.

No difficulties were encountered in obtaining photographic materials; even in the far north and smallest town there are fresh Agfacolor and Ektachrome films of all formats and all the more popular brands of black-and-white film as well. Even if one's camera should happen to break down, it is not so difficult to find a good repair workshop. To be on the safe side, however, I preferred to take along a good supply of tested color film for my 4 x 5 in and 5 x 7 in. large format cameras,





keeping it in insulated boxes and in the fridge of my motor-home. So far, the customs have never caused me any difficulties on my various trips. I send exposed color films back to Germany by post. It seldom takes longer than two days from Narvik to Stuttgart, since overseas post from Scandinavia is always conveyed by air.

Although I also have hand cameras in my luggage, for landscapes and architecture in color I prefer to use a larger format — preferably 5 x 7 in. I am a stickler for the very highest quality and therefore prefer the large-format transparency, since this gives me improved color saturation and extra detail which I require. I obtain much greater pleasure from the large transparency and, last but not least, it is also easier to sell.

My lenses may not be the fastest around, but the range does extend from extreme wide angle to those of pretty long focal length; they may be used for both the 4 x 5 in. and 5 x 7 in. formats. The longer lenses, those from 300 mm and onwards in focal length are Apo-Ronars and although these lenses are really designed for copying work, they also produce excellent results in landscape photography. My most important accessory in landscape photography is a polarizing filter which I use for a considerable proportion of my photographs. It accentuates the color contrast and brings out the pure colors of the object much better. Even a meadow, which reflects the blue sky in a million facets is rendered in an unadulterated green by means of the reflection-reducing polarizing filter.

Similarly good results may also be achieved in black-and-white photography with a pola filter, especially in conjunction with strong color filters.

Continuation page 40

Kalmar Castle in Sweden: ▲

This castle at Kalmarsund played an important role in the war between Sweden and Denmark. It was here that the peace treaty between the two Scandinavian countries was signed. 4 x 5 inch Linhof Technika, 210-mm Schneider Symmar, Ektachrome sheet film using polarizing filter.

► There is no recent evidence of volcanic eruptions on the Norwegian mainland. The observant traveler will not fail to notice the signs of volcanic activity in past ages, however. This excellently composed shot not only comments on the singular beauty of Scandinavia but also supplies us with exact information about geological events in past history.

In former times the lava was extruded from pockets and crevices. When it emerges from the earth the liquid rock (also known as magma) has a temperature of up to 1300° C. We use the terms "lava stream" and "lava plateau" according to the form in which it spreads. Billowing, pillow-like masses are formed as lava cools under water. This is what happened in the case of the present photograph. There are, however, also other types of lava at hand which would indicate that this stretch of coast was, at various times, subject to volcanic eruptions above as well as below the water level.





For exposure measurements I employ a motorized spotmeter with the aid of which I select points of differing brightness and can then determine whether my subject lies within a range of contrast which can be coped with by photomechanical printing. (Ideal is 1:16 to 1:32). The spotmeter also provides me with the possibility of determining the character of my photograph from the outset – either bright and soft or heavy and rich in contrast – without indulging in a series of uncertain experiments. A "hit or miss policy" usually ends up in excessive waste of color film.

From an exposure point of view the risks involved in landscape photography are greater anyway than those prevailing in a studio where the lighting is fixed or at least a known quantity and I therefore use all those technical aids which will guarantee me better results.

I mentioned above the natural beauties of Scandinavia. There are, however, a thousand other things worth photographing which I include in my working day, since I find these very valuable for my archive. For example, there are the prehistoric cave paintings, the rediscovered Viking ships in the museums, the Scandinavian handicrafts, etc. No matter what it is, I al-

In the upper reach of the Oslofjord. This photo was taken during the recent economic recession and therefore more ships than usual were obliged to lie idle. Hasselblad 500, 80-mm Tessar, Ilford FP 4, orange filter. ▲

Bohuslän, Smögen in Sweden.

Smögen is a famous holiday resort, fishing and sailing harbor in the Bohuslän Province of Sweden. Typical of the neighborhood are the white houses made of wood and with a loft painted red. 5x7 inch view camera with 210-mm Schneider Symmar, polarizing filter. ►

Møre og Romsdal/Alesund in Norway.

The city is the largest on the west coast of the province and is situated on three islands which are connected to the mainland by a bridge. It is the center of the herring fishing industry, and in the winter months more than 2500 boats with a total crew of about 25–30,000 men leave the harbours for the fishing grounds. 5x7 inch view camera with 360-mm Apo Ronar; Ektachrome film, CC 10 R filter plus polarizing filter. ►

ways write down relevant data straight away such as the province, mountains and rivers, the builders of churches and castles with date and important events in history. I try and obtain as much information as I can, since a photo only becomes of value when I can supply a comprehensive background story to accompany it.





Double exposure

In photography the possibilities are becoming increasingly manifold and the limits are being steadily raised from year to year. This enables the photographer to get more impact into his pictures, his personal touch becomes much more clearly pronounced.

The Canadian portraitist J. Karsch expressed this notion very aptly in one sentence: "In order to take photos of lasting value, one must depict the subject through one's own personal view of life, since the heart and the senses are the real lens of the camera."

We have come a long way since the days of straightforward documentary photography. Through all manner of lighting effects, color variations and manipulations, selection of focal length, choice of filters, alteration to the shutter speed/lens aperture ratio, blurring and many other forms of abstraction, the photographer is able to express his own personal feelings, his fantasy lending the motif a different character from that which it has at the time.

The technique of double exposure permits the photographer to completely alter his subject — with the same freedom as a painter — conjure up in his picture objects which do not exist, make evening out of noon, and cause the sun to set where it never goes down at that time of year.

When and how does one make a double exposure?

There are quite a number of occasions where this is appropriate, and the following are a few examples:

1) Let us assume one wishes to take a photograph of a building at night. The interior of the building is, however, not illuminated as yet. If the photo is taken after dark, on the other hand, the exterior of the building will appear quite without detail. So the answer is to take a first exposure during twilight, leave the camera set up the tripod, wait about an hour until it is dark and then — with the windows lit — take a second exposure. One must pay close attention to the relative amounts of exposure for each and remember that they add up, uncompensated, to overexposure. A certain amount of experience here is essential.

2) One wishes to achieve certain special effects, e.g.: A dragon glides down from the top of a mountain into the depths of the valley. One feels this moment could be made even more thrilling by the addition of the sun behind dramatic clouds. One makes two exposures on the same piece of film: the first, as the man takes off with his kite, and the second a few hours later when the sun has moved and the mood has altered in keeping with one's intentions. Of course, one will have to study the situation very carefully beforehand and allow for changes in atmospheric conditions.

3) In landscape or urban scenes certain effects are desired. Here considerable freedom in the composition is allowed. E.g., one wishes to enhance a cityscape by causing a huge sun to sink at a particular point. At the time of year, however, the sun is hardly likely to set in the position desired. Having made the first exposure, one takes a piece of tracing paper and a pencil, or wax pencil direct, and draws the outline of the first motif on the focusing screen. An appropriate comment is made on the film holder, too. The location is then changed. The second exposure is made later at a place and time where the setting sun appears to fit nicely into the original sketch. One must take care that in the second exposure at another location no disturbing elements appear apart from the sun, horizon and possibly water in the foreground. If clouds appear during the second exposure it is advisable to wait until they are "isolated" in the sky and do not overlap any parts of the first exposure, such as buildings or tree trunks. This can be seen from the sketch which one made of the main subject.

Nature is not the only subject which lends itself to the technique of double exposures. Also in the fields of portrait and figure photography it is possible to greatly enhance the artistic appeal of a picture if the subject is taken against a two-dimensional background. Here we mean flat graphics with cubic, linear patterns, possibly paintings or even a background of simple lines. Care should be taken, of course, that the color and tonal values are mutually balanced. As every photographer must know, the artist's precepts of soft and hard, light and shade, space and detail, line and mass also apply here. There is a definite similarity between the pictures found in the Rorschach psychoanalytical tests and the reversed printing (mirror image) of sections of a motif or reversal of the entire negative or positive. Further, the interposition of prisms is tricky but most effective.



Fredriksborg Castle in Hillerød/Seeland, Denmark, was the summer residence of the Danish monarchy until 1840. It is the most splendid renaissance building to be seen in Denmark. After it had been seriously damaged by fire in 1859 and subsequently restored, it became the Danish National Museum. 5x7 inch view camera, 300-mm Apo Ronar, Ektachrome sheet film, polarizing filter.



A farmhouse in Blaastrand on the west coast of Jütland built in 1869. It is possible that this attractive old house is no longer standing, because I heard that in the winter after I took this shot the North Sea eroded the land up to a few yards away from the front of the building. 5x7 inch view camera, Ektachrome film, polarizing filter.

International Congress Centrum Berlin



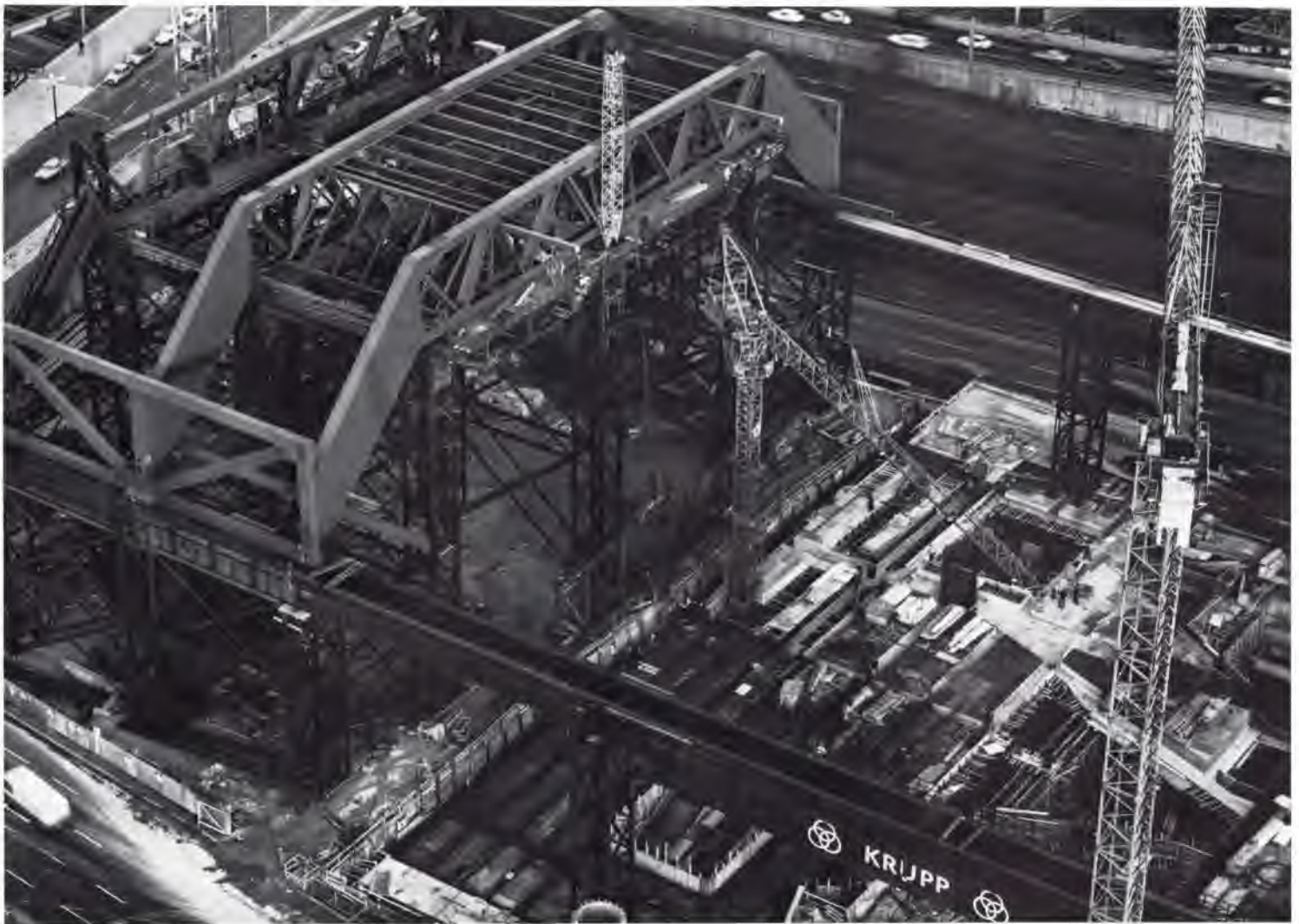
The International Congress Center Berlin that will be completely open for business in April 1979 is going up right next to the Berlin Fair Grounds and is linked to the same by a three-story flying bridge. 80 congress and conference halls including the 5000 seat Main Hall and the versatile Banquet Hall seating up to 4000, the numerous conference rooms for small and medium-sized groups, the latest conference technology, simultaneous translation facilities for 8 languages, electronic information and guide systems as well as services from A to Z are just a few of the main characteristics of this new multi-functional building that will accommodate congresses and conferences of any size. Since it is interconnected with the 88,000

square-meter Fair Grounds, the ICC Berlin will make it possible to combine exhibits and fairs with congresses, or vice versa.

One cannot call this picture particularly beautiful, but it is most interesting from an architectural point of view. Scale models are not always a very reliable way of demonstrating the final, overall appearance of a new building. The latter might correspond closely to the original model, but it is difficult to exactly predict what sort of an impression the structure may make in its actual environment. ▲

This aerial view shows the state of construction work on the site in the winter of 1976. It was taken obliquely from a cabin window of the aircraft. ▼





Shifting the first roof segment

Displacement of the first roof segment

Between the 8. and 11. December 1976 it was possible to observe on the building site of the ICC in Berlin an event which was unique in civil engineering. The event was the shifting into position of the first segment of the roof, and it attracted quite a crowd of spectators (see photo). The assembly of the first roof segment, which consists of three transverse trusses and a longitudinal truss member and weighs approx. 1800 tons, was completed on the assembly gantry on 3. December. In order to transport the finished roof segment over the building and lower it onto its concrete towers, prestressed beams were mounted longitudinally from tower to tower at a height of about 60 ft so as to serve as a "transport rail". Onto these beams the roof segment was then lowered until it rested on its four corners. The lateral displacement then took place by means of a clever system of horizontal and vertical hydraulic presses working in cycles of 10 inch each. As the segment was being shifted along the beams it was

necessary to take a number of safety precautions. For example, the regulation of the hydraulic pumps was carried out from a central control point which constantly received optical signals in connection with every operation executed. At every hydraulic point there was an emergency switch by means of which it was possible to bring the whole procedure to a halt should a defect occur at any one of the four bearing points. In order to check whether the segment was "wandering off its track", horizontal guides were also mounted along the transport beams; they provided a certain security against storms, as well. The first segment was only shifted 320 ft – hence not into its final resting position – in order to permit interlocking of the steel construction and concrete work and clear the gantry for setting up the second segment. The final displacement of the first segment took place in the spring of 1977, just before the second roof segment was shifted.



Malachite, scalloped, a vivid green with black, a very soft mineral which breaks easily.

Minerals and precious stones

The photography of minerals and precious stones must be one of the most difficult subjects to photograph.

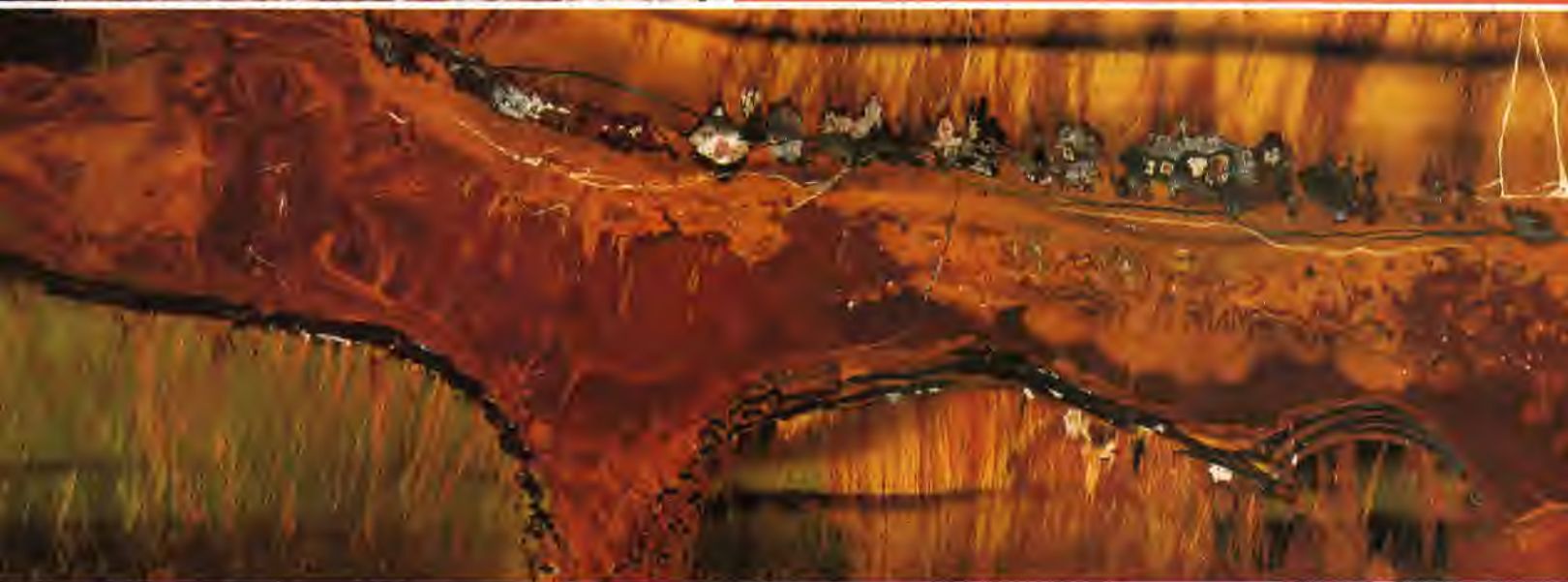
In the minutest section of some objects one can discover a palette of colors, moreover in countless fine shades, which is hardly to be found in any other branch of photography. It is therefore very astonishing but gratifying that film manufacturers are in a position today to supply the photographer with a color transparency material which masters the delicate tones so well. Unfortunately, the subsequent process work on the transparencies to turn them into faithfully rendered color enlargements and color lithos in the labs and printing houses is still a very difficult business.

I have had satisfactory work done on Kodak RC 14 paper (direct reversal) from certain custom labs. In the case of photography of textiles and painted products, such as furniture and machines, the colors are man-made, come from a color scale and are therefore easier for the printer to reproduce. On the other hand, the colors which occur in nature often call for hand color separations at the printing stage, which makes the production of prospectuses for jewelery and minerals an expensive undertaking.

An additional difficulty is created by the exacting requirements of the client who is more than familiar with his gems, perceives the slightest deviation in color rendition and lodges a complaint. After all, the delicate tint of a jewel or precious mineral is the characteristic feature which can make a dif-

ference of several thousand dollars. So it is of some consequence if a rare collector's item appears in a photograph as a redish brown when, in actual fact, it is a dark pink. An aquamarine which is shown as a medium blue will fail to be classified as an aquamarine of the "Santa Maria" class which exhibits a deeper blue tone and is considerably more expensive. The first condition for a faithful rendition of color hues on reversal film is a soft, uniformly distributed lighting which is best achieved with a powerful source used indirectly. Attention should likewise be paid to the background which is best kept a uniform shade which is slightly more pastel than the object itself. Caution should be exercised in the use of spotlights, since they can cause unwanted reflections. An exception, however, is possibly a thin, direct ray impinging upon a transparent gem, which can be very effective.

Color page, right: Turmaline, on the right: Malachit with azulite; center: thin ground section of tiger's eye. Below left: Turmaline crystals; below right: Amethyst. Photos (6): Klaus Köhler, Idar-Oberstein.



The depiction of the female body is by no means only a domain for the professional photographer. The subject itself continues to enjoy popularity and is still a sure eye-catcher in all branches of advertising. In contrast to the pornographic wave, the "classical" kind of nude photography still seems to be in great demand. The examples shown here might serve our readers as inspiration. The photographs accompanying this contribution have been intentionally kept on the "soft" side. The aphrodite on this page was the work of Maurice Bron, Grenoble, France. On the right, Erich Klemm has handled the graphic element of his composition very nicely which he shot with a Leicaflex. The restful pose of the body is good, and this is emphasized all the more by the fan-blown hair.

The black-and-white photo on page 50 was sent in by Wolfgang Weuthen of Aachen.



A black and white photograph of a nude woman in a dramatic, low-angle pose. She is leaning back, with her head tilted upwards and her hair flowing. Her right arm is extended downwards, and her left hand is resting on her thigh. The lighting creates strong highlights and shadows, emphasizing the contours of her body. The background is a soft, out-of-focus gradient.

AKT-
FOTO-
GRAFIE



EFHA – Kohinoor effect contact screens

Continuous-tone originals have to be screened for reproduction in the letter-press, offset and photogravure printing processes by means of autotype contact screens. Through a constant improvement in the quality of these screens for the graphic arts trade it has proved possible to achieve an astonishingly faithful rendition of photographs in print. However, an absolutely stereotype reproduction can sometimes lead to monotony. Anyone who has studied ten or more statues from the strictly classical Greek period, feels suddenly refreshed when he comes across a work of the same date but from a different civilization. A similar situation might be created in the field of commercial advertising when one applies, with good taste, effect contact screens to otherwise straightforward prints.

The Raster-Union EFHA – Kohinoor is one of the leading suppliers of screens which can be adapted to the highly different methods of printing in evidence today. Their range includes, however, a variety of effect contract screens which are of interest to the photographer or adman who wishes to lend his work a more individual character. Perhaps one should be careful with word "effect" which might be too easily associated with "cheap and nasty".

The types most interesting to the photographer and graphic arts designer are: EK irregular grain; ES steel engraving; ER sunburst; EZ concentric circle. The EK irregular grain structure, for instance, produces effects which are similar to the heliographic dust-particle technique of earlier days. These effect screens will not be found in the normal program of the average photomechanical or lithographic printing establishment. Should you approach such houses with an enquiry about effect contact screens and their application, you will probably be disappointed by a reluctance to consider such matters, as was the experience of the author. There are probably two ways of arriving at one's goal: either one can ask a supplier of such contact screens (e.g. Kohinoor) to be put in touch with a printer who has recently ordered such materials or one can buy a screen in a personally appropriate size and take it together with one's order to the printing house with which one normally entertains business relations. In the case of publicity, which one can regard as an investment and which will bring greater financial reward than a standard presentation of a photograph, the extra cost of special screening techniques is perfectly justified. To give an idea of the cost, one might quote a recent job with a fairly large screen measuring 31 x 38 cm which amounted to \$116. The screen, of course, remains the property of the purchaser.

As often mentioned in this magazine, the use of some special technique or gimmick should not be allowed to become an end in itself. Effect screens are particularly suitable for a series of advertisements in which the idea of uniformity and continuity has to be brought out. One might take as an example a recent high-quality catalogue for shotguns and hunting equipment in which all the illustrations were reproduced via an ES 2 steel engraving screen.

The photographer and photo-designer who employ such out-of-the-ordinary enhancement are more likely to attract attention and thus better fulfil their increasingly important role as conveyors of information.

The EFHA-Kohinoor Raster Union, with head office in D-819 Wolfratshausen 1, Postfach 1549, maintain an international dealer organization and can supply brochures in English.

PLEXIGLAS – A material for the creative photographer

by Dr. Arthur Gewehr

As yet, the potential of Plexiglas, a product of the Röhm GmbH in Darmstadt, is not so well known to photographers. The clear, colorless type of Plexiglas has a surface finish which is not inferior to plate glass. An exception is the sheet material of biaxially stretched Plexiglas which exhibits certain optical imperfections in the surface. The nonstretched sheets are recommended in place of glass when readymounted pictures must be sent in to an exhibition, etc. Such Plexiglas covers render insurance unnecessary and avoid the inevitable irritation when pictures arrive at their destination with a broken glass. The type 233 is available in a variety of thicknesses from 1.5 mm upwards; this means that the strength of the Plexiglas cover can be adjusted to the format of the picture. The best way to get in touch with plastic firms who can supply and cut Plexiglas to size is to look them up in the local trade directory or phone book. Further information may also be obtained from the sources mentioned at the end of this article.

Opaque sheets in white, gray, black and other colors are ideal as a base for mounting photos which are to serve as an element of interior decoration. The standard surface is high gloss, but for special purposes it can be finished mat. Should the photographer himself not feel sufficiently skilled to mount prints with double-coated tissue such as Lomacoll, there are studios which undertake such work. A montage on Plexiglas opaque is not the cheapest solution, but it is an individual form of presentation with a definite high-class appeal.

From solid blocks of Plexiglas it is also possible to create "lenses" by means of which continuous-tone photographs and negatives can be modified to graphic works of art. Certain engineering firms with cutting facilities are in a position to shape the necessary wedges, cylinders, etc.

For example, if one assumes an original format of 4 x 5 inch, the plastic modification element must measure 5 1/2 x 7 inch.

The kind of optical element in question might be wave-shaped, the minimum wave/trough height being about 15 mm; also wedge-shaped optics of varying angle in which the thin end may be reduced to about 6 mm minimum; or a semi-cylindrical bar are also conceivable. And that is not all. It is possible to effectively combine such plastic optics with sheets of glass incorporating grooves or other surface structure. The photograph is taken directly from above, the correct arrangement being copying lens, then plastic modifying element, glass sheet if desired, high-contrast lith film, light box. It is necessary to prepare exact drawings for the production of the plastic modifying element from blocks of Plexiglas. There is no reason why one should not consecutively combine an exposure taken with an element A with a further, different element B. This will increase the possible permutations even further.

Manufacturer: Röhm GmbH., Postfach 4166, D-6100 Darmstadt. Foreign representatives: Cornelius Chem. Co., Ibex House, London EC3N 1HY.

Chemacryl Plastics Ltd., 73 Richmond Street West, Toronto/Ontario M5H 2A2

◀ by Dr. A. Gewehr

TANDEM PROJECTION - we've had it before

An interest in old things, the pleasure which history affords, has taken hold of photography – or is it just nostalgia? Antique lenses, cameras and equipment of yesteryear find eager buyers at auctions of such historic utensils. Books illustrated in color and large-format calendars devote themselves to this increasingly popular subject.

One special field of photography, that of projection, has a history of its own, and it began even before the first signs of photography proper. Hans Bernhard, a journalist, specialized in the field of audiovision, discovered, during his researches, that the Tandem-Projector introduced by Braun actually had a forerunner,

a black apparition on the wall opposite. He puzzles over it, and then recognizes the cause and consequence. With the soot of a candle he then paints a figure on the mirror and holds the latter closer to the flame. The configuration reflected on the wall becomes more clearly visible. Nobody can fix a date for the observation of this phenomenon, but the invention of projection is conceivable from the day man learnt the interrelation between flame and reflective surface.

Dates follow later, however. J. B. della Porta used a projection apparatus with drawings on glass as early as 1569. His *laterna magica* is fitted – how else could he obtain sharp images – with lenses.

Art of Light and Shade) which contained an illustrated account of how Kircher had projected, at night in Rome, figures and letters onto the window of the house opposite which had been hung with paper. Kircher considered this form of projection after dark a very good means of presenting pictures and shadows in dark chambers which is much more awesome than any the sun might create. By means of this art many an unrighteous person could be withheld from committing certain sins... if pictures of the Devil were drawn on the mirror and cast against some sinister background."

The earliest days of projection

It may all have started this way: An insect flying through the night is drawn as if by magic to the light of a candle, is irritated by the heat and alights fluttering on the mirror of the lamp. An observer then sees, due to the reflection of the mirror,

The first slide show

In 1653 the Jesuit Taquet in Loewen in the Netherlands is said to have given probably the first diapositive projection demonstration ever held in the world.

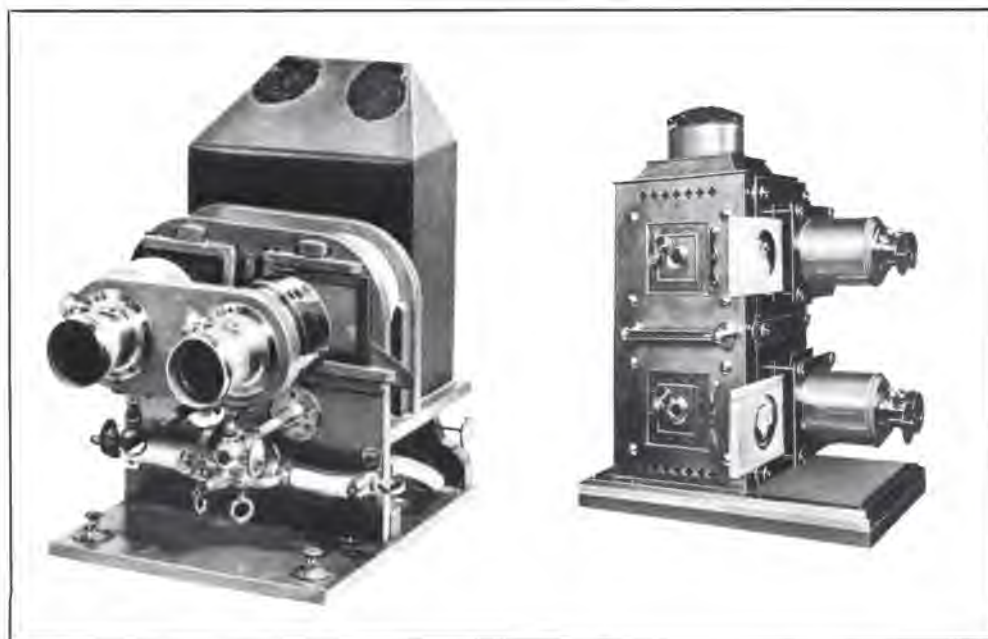
In 1664 Athanasius Kircher published his "*Magna Ars Lucis et Umbrae*" (The Great

Laterna Magica and the principle of the transparency

In 1665 a Danish scholar in Lyon is reputed to have demonstrated a lantern by means of which he clearly projected a small drawing (which he called a "prototype") in much enlarged scale onto the wall of a house at night. This event is described by Claude Francois Dechaes in 1690 and he even included a detailed sketch of the lantern and its workings. Only after Dechaes had then claimed to have invented all this himself did the inventor, Walgenstein, permit Dechaes to examine and measure the interior of his lantern. Walgenstein had thus met his master in the form of Dechaes.

It is said that Athanasius Kircher, on the other hand, was not able to disclose the secret of the inventor. The honour of inventing the *laterna magica* will therefore have to be awarded in future to the Dane Walgenstein.

In the second edition of "*Psychologia Kircheriana*" which appeared in 1671 the famous Kircher *laterna magica* was to be found illustrated. The chapter in which it is shown is entitled "*Ars Magna Lucis et Umbrae*", and anyone who still knows any latin will translate as follows: "The Great Art of Light and Shade". But the latin expression "*Ars Magna*" has a much earlier meaning. Around 1300 there was a certain Ramon Llul, poet, mystic, philo-



sopher, also mathematician and scientist, born on Majorca, and this universal genius, when pursuing his studies on the logic of Aristoteles, came upon the idea that a calculating machine must be within the realms of possibility. To this apparatus hovering in his mind he gave the term "Ars Magna". If we are now to proceed in a logical direction, then the title of Kircher's chapter should therefore read, in modern English, The Light and Shadow Machine. There are two diagrams of the Kircher machine. Round pictures are drawn on long strips of glass: a wretched soul in purgatory, and a skeleton are shown. In contrast to the latin text which, in translation, states that the pictures "were painted inverted on glass", one can see that they are, in fact, right way upon the glass strips and not inverted. So the opinion that the experts came to was that Kircher was a quack who did not even stay his hand at falsifications. He was, however, defended by Schott who said that his "master" was, indeed, the first person to employ images painted on a transparent ground instead of the mirror principle.

Kircher himself is said to have maintained that he could not remember ever having read anything similar from the hand of another author.

The earliest report preserved about such a lantern originated in Nuremberg: Joh. Christoph Sturm (1635–1703), "one of the most famous mathematicians and professors of Altdorf", held a lecture in 1672 in which he presented the laterna magica as his own invention. That which Sturm was intent on displaying as his own brainchild was already an item which could be purchased in nearby Nuremberg at that time.

Magic lanterns for sale

Only when they had been provided with a condenser lens system and a brighter light source, thus making them more efficient, did it become possible to offer the magic lantern to interested persons. Two hundred years passed before this was the case. The somewhat bragging Professor Sturm did, however, subsequently make his contribution to the development of projection in 1701, one year before he died: he reported, in the Nuremberg publication "Mathesis Juveilis", about the application of a condenser in the laterna magica. The light source was also greatly improved. The original candle

flame was superseded by methylated spirits and petroleum; the acetylene gas and oxygen-enriched flame already brought about a remarkable light output.

In the last third of the 19th century special techniques, such as fade-over and various now well-known optical tricks, first made their appearance. There were even projectors with two or even three lenses stacked over one another. The triple combination is a sort of weather station: the lowest lens projects the landscape, the middle lens the clouds and the top lens conjures up flashes of sheet or fork lightning.

The forerunner of the tandem

In the early days, the double lens or tandem projection system consisted of two separate apparatuses which were joined together at the front, inner edge by means of a hinge, and the two adjacent pictures could then be adjusted for parallax. Each lens had a cap or flap to darken the image, and later there were also combined devices operating through levers which drew a tapering slit across the lenses, darkening the one and opening up the other. The diapositive behind the stopped down lens would be changed by sliding it across or replacing it by another one. On these sheets and strips – which were pushed into guide rails at a later date – the translucent image itself would be finely painted with glazing colors, in the form of transfer-pictures or hand colored on a photographic base such as that practised by the Langenheim brothers in Philadelphia.



Another form of "dissolve" was to control the intensity of the flame, which corres-

ponds, very roughly, to the electronic solution common today. Here the gas cock would be turned up and down, brightening or darkening the flame. All these wonderful things were forgotten in the years to come. It is true that in the 20s and 30s of this century there were still families in which the children possessed a magic lantern with pictures in the form of glass slides, but Grandpa's technology either decayed in some corner of the attic or had long since landed on the scrap heap.

From the dark interval to gradual fade-over

As the audio visual media progressed from the straight-forward sound slide show to multivision, the desire for soft dissolves once again arose. The dark phase between each slide was found to be disturbing.

In the meantime the fully automatic projector had been developed, and Braun introduced the first European projector of this type to the market in 1956. This kind of flat apparatus could no longer be market in 1956. This kind of flat apparatus could no longer be placed close together in pairs, as was the case in grandfather's days; the lenses were now separated by the mechanism necessary for the slide selection and transport. Solutions were, indeed, found, but difficulties with parallax compensation remained a source of irritation.

In time for the 1974 Photokina Braun introduced the "Tandem Professional" to the public. Old ideas has been revived in a new form: On account of the "mirror-image" arrangement of the two projection systems in one housing, the two lenses were once again placed close together, and the problem was thus nicely solved. Both projected images now fitted squarely into the rectangular screen. The round magazines, each loaded with 50 slides, save the AV professional, who is sometimes called upon to change over from front to back projection, from turning over each slide, a time-consuming and risky job. All he needs to do in order to get right-way-round images in each case is to take the magazine off the left projector and place it on the right one.

Control of the light intensity and fade-over is now taken care of in the Tandem Professional by electronic components.



broncolor® 606 Flash equipment for studios with high light output requirements

More light through technology, More light from mutually compatible components and system design which ensures more light from high power output. Output can be regulated by 3 f-stops in half step increments. Precisely regulated for exact exposures, UV-corrected and constant in reproduction for full, rich colors. Greater operating ease in the studio: intense 1000 W modeling light, automatically proportional to flash, acoustic operations monitor, cordless synchronization with built-in IRS receiver. Offers greater safety for equipment and the photographer: protected lamp sockets, ventilator, thermal regulator, automatic discharging unit, automatic capacitor trickle charging. And much more. broncolor® — always the leader in studio flash systems.



IRS infrared synchronization. IRS for cordless triggering. The IRS receiver incorporated in the 606 power pack allows complete freedom of movement in the studio. A compact IRS transmitter on the camera is always ready for instantaneous triggering of the broncolor 606.



The power pack will only operate when the lights are correctly connected and the safety cover is closed. Built-in dual circuits provide extra operational security.



Select the light required for the job: whether diffuse and soft or direct and high contrast. The Hazylight, Rondo lights or standard reflectors can be used to provide bright, proportional modeling light. You can see the subject on your screen the way it will be: in the right light!

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Sailing Sports



The photos accompanying this article were taken by the author himself, Kurt Schubert, Törwang.

The two pictures on page 56 and 58 were shot with a Minolta and were put at our disposal by the YPS Picture Agency in Hamburg.

Sports photography, take sailing, for example

To my mind, sailing is the most photogenic kind of sport or leisure pastime which exists. White sails and colorful spinners, the manifold aspects of the element water, have always fascinated photographers. Apart from nature photography, depiction of this sport is the subject which interests me most of all, because since my childhood I have always had a particular liking for the world of sail. Before discussing my own personal views on this subject, it might be appropriate to take a brief look at the development of yachting photography on an international scale. It is not so long

ago that the Englishman Keith Beken and the American Stanley Rosenfeld were regarded as the absolute experts in this field. Their picture-books and calendars were accepted, by the trade press and yachtsmen alike, as the very best in yachting photography. The most popular theme was usually some sprightly yacht on the high seas captured needle-sharp — with the aid of a plate camera — from bow to stern and from the topsail to the water line. These wonderful ship portraits are still very much in demand today, although I must confess that I now find them somewhat static and stereotype. They are, after all, exact reproductions of yachts, usually very skilfully executed, but still portraits in the general sense of the word. They show beautiful boats in attractive "poses", but do not convey the atmosphere of sailing. When they do depict yawls







or other smaller, open sailing-boats, one can clearly see the limitations of the cumbersome view cameras.

Peter Cornelius of Kiel was the first color photographer to reveal new aspects of yachting photography in the 1960s. Equipped with 35 mm cameras and lenses of long focal lengths (usually 200 to 300 mm), he shot pictures at the Kiel Week which showed the event close-up, one might almost say, from the inside. For the first time the outsider was able to grasp the extraordinary dynamic nature and, above all, the many varied aspects of sailing. Over and above this, the best of the photographs were minor works of art, since Peter Cornelius (he was killed about five years ago in a traffic accident) was a master in handling color and light. I have always admired his pictures, although the motifs were usually restricted to regattas, most of the scenes having been taken during the Kiel Week. Of course, regatta sailing is only one side of the medal-

lion. Sailing photography, the way I see it, can only be carried out with equipment which fulfils three conditions: it must be handy, uncomplicated and rapid in operation, because the very nature of sailing and its typical atmosphere are only apparent in small details and scenes lasting a brief moment. This means that a 35 mm is the only camera which really suits the job, since there is a further condition to be fulfilled: This is the only format which permits lenses of appropriate long focal length to compress the subject sufficiently so that concentration on essentials becomes possible. Successful regatta photography calls for the most powerful telephoto lenses (300 to 500 mm), since the maxim applies: the closer you can get, the more dramatic the impression will be.

Then there are a number of other tricks which have helped me to get shots full of impact. Since 1970 I have taken photographs at the Kiel Week for Europe's largest sailing magazine, the Yacht. At this and similar events I consider the flat-bottom, highly maneuverable motor-boat as the most important prerequisite. It must be flat in order to obtain a low viewpoint, since it is often a good idea to include the waves in one's composition as a foreground design element. The boat must also be easily manageable because it is then possible to get in closer

to the turning point without obstructing the yachtsmen. As is so often the case, personal experience in a particular discipline proves to be most useful when it comes to photography: I can usually predict, for example, how events are likely to develop and know just how close I may approach to the participants.

In rough weather the photographer will have to react quickly and keep his balance, compensating for the motorboat's motion with his own body. I prefer to work with telephoto lenses at full aperture, because the short shutter speeds (at least 1/250 sec.) hardly permit stopping down, especially with color film. All of this implies that much experience and a good eye are necessary to render the essential details sharp in spite of the narrow depth of field and the constant motion of the boat. As a matter of interest, the only color film I use is Kodachrome 64 and for black-and-white work I prefer Kodak Plus X Plan (125 ASA) or Tri X Pan (400 ASA or, rated at 800 ASA in poor weather).

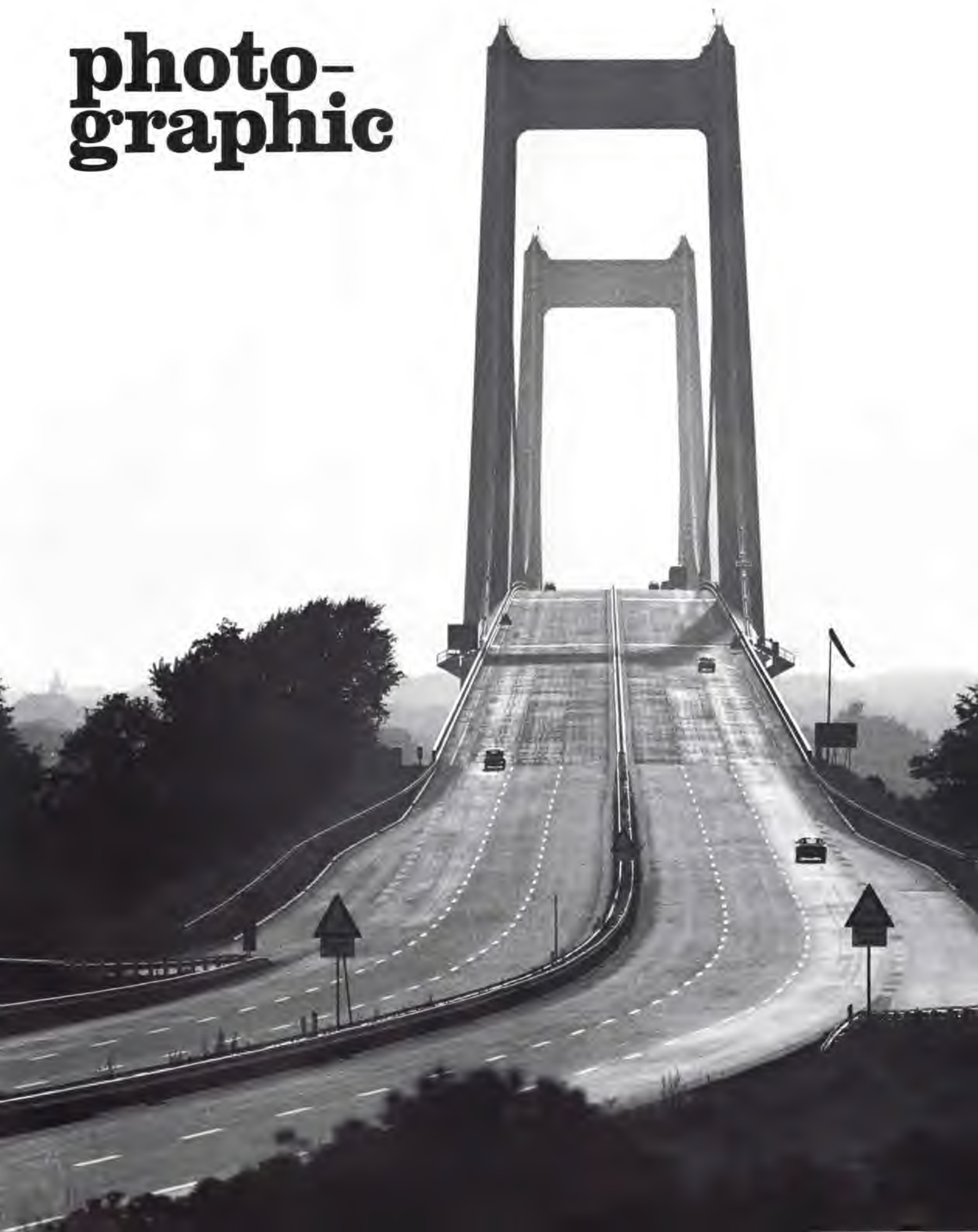
Whereas one is likely to get a good soaking during the Kiel Week (that is why I cover up the lens with a skylight filter), it is perfectly possible to get almost as impressive photographs on any amount of lakes with less trouble. Lake Garda in Italy, Lake Achen in Austria or Silvaplana in Switzerland are recommended for this kind of activity in Europe. They draw their particular charm from the magnificent background of mountains and the generally excellent thermal wind conditions.

In the mountains I frequently take pictures from the shore, since the turning points are often not far from land. Such a position has the advantage that one has firm soil under one's feet and one no longer has to shield the lens from spray. Since the elevated banks are often darkened by pine trees, it is an easy matter to obtain a striking contrast to the brightly colored sailors and their boats. In the region of mountain lakes one has to keep an eye on the weather, since the light conditions can change rapidly from one minute to the next. I believe that there is hardly any other kind of sport or leisure activity in which the photographer has a better chance to train his sensitivity for the interplay of light, shade and color.

Kurt Schubert

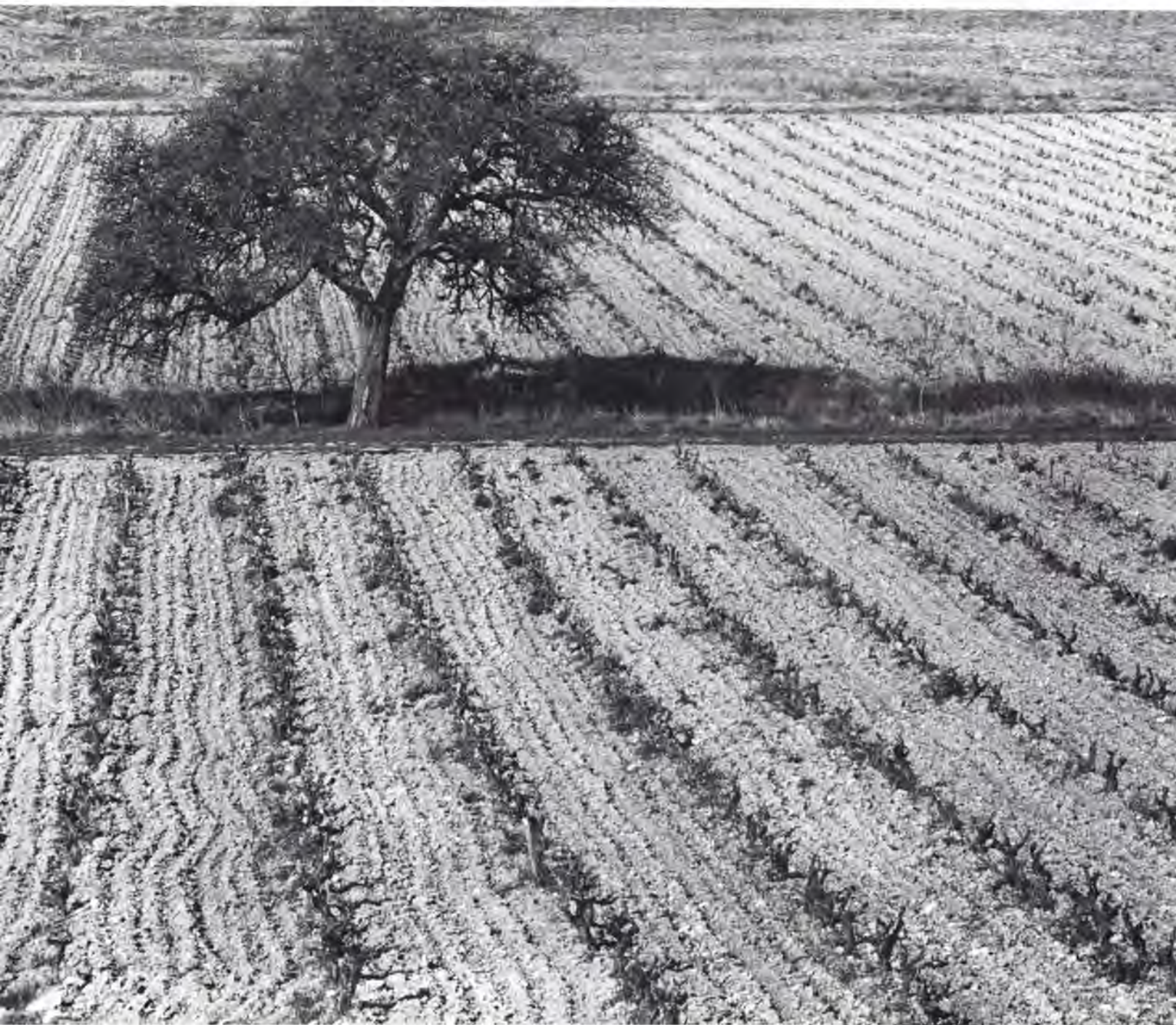


**photo-
graphic**



■ The photo on the left shows a suspension bridge in the USA and was taken by Toni Schneiders of Lindau. Another work of civil engineering of comparable photographic interest is the Kohlbrand Bridge in Hamburg. It spans a large part of the Customs Harbor in the shape of the letter S. Photographers in Europe who would like to try their hand at this subject might take the following tip: choose the early hours of the morning and take along a wide-angle lens as well as a telephoto, a camera with movements and a rigid tripod.

This photo by Antoine Provident, France, forms a fine contrast to the picture on the left-hand side. The photographer entitled his work "Le Solitaire". ▼



The photo next page on the right was taken by Walter Vonbank, Austria. On the left is a contrasting shot by Horst Conrad of Ludwigshafen. Here we have two extremely ugly periods of architecture, but successful photographic interpretations of them. A parallel example is to be found in Mexico City where, on one small square, three architectural epochs are gathered close together: in the foreground are the remains of an Aztec pyramide, behind the ruins of a Spanish colonial church and the whole is framed by the structure of a modern building. — The waterfall on page 64 was photographed by Toni Schneiders.



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Center swing around the vertical axis	360°
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for 5 x 7 camera	6 in.
for 8 x 10 camera	6 in.
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The Zenith

Anybody who landed at Paris Orly Airport two years ago was able to admire a Concorde airliner "parked" in front of the main terminal building. Those who went in a little closer were disappointed to discover that it was not capable of flying; it was a dummy. Even a few years before this one had seen impressive pictures of this machine in flight in the trade press and also some daily newspapers. Once again, however, it was



a matter of models. On seeing the original machine for the first time, passengers were amazed how small this aircraft is in reality. It was with some apprehension that President Pompidou boarded the first plane on its maiden flight in 1973, and even at that time the press reports either abounded in praise or drew attention to the doubtful economic future of this supersonic airliner. In early 1966 the first flights from Paris to Rio de Janeiro and Caracas were inaugurated, a return flight from Frankfurt costing 6476.— D-Marks for Rio de Janeiro and 4754.— for Caracas (about 2670 \$nd 1980 \$). Then Washington appeared on the schedule. New York has succeeded in denying entry to the plane up until the present time; admission to land at Washington Airport has to be renewed every six months. The extent to which the American aviation industry has lobbied this ban is a mute point. The Americans have probably woken up to the fact that Europe will be capable in the future of competing with the USA in this field as well. At any rate, in the case of the Airbus one tried to get into the business through direct participation. Developing the Concorde, France's prestige airliner, has caused considerable havoc in the French budget, and the costs for maintenance and publicity are still rising. The initiators of the project in Paris and London were well aware from the outset that the whole affair was unlikely to be profitable. Yet, when it comes to national pride, France just has to go its own way. It is therefore not very surprising that the construction of further machines has been stopped. How long the four existing machines will remain in service, nobody can say. Apart from the costly fares, extremely high fuel consumption and maintenance problems at remote airports are likely to be the reasons for the sudden, but not unexpected "crash landing". Nevertheless, leading scientists and technicians in the aviation industry have assessed this passenger rocket, which can fly at Mach 2.35 (that is about 1380 mph) at an altitude of up to 65,600 ft., as the zenith of contemporary aviation technology.

The major airports of the world can no longer cope with the burden of international air traffic. The sort of problems which exist on the ground itself can be gathered from the most recent and greatest aviation catastrophe on Tenerife where two Boeing 747 airliners collided on the runway. The Concorde may set up new records in flight, but it is bound to create new problems at ground level.

The photographically imposing perspectives of the plane inspired the well-known French photographer Gérard Gester-mann to compile a picture series of the Concorde and present it in an exhibition.

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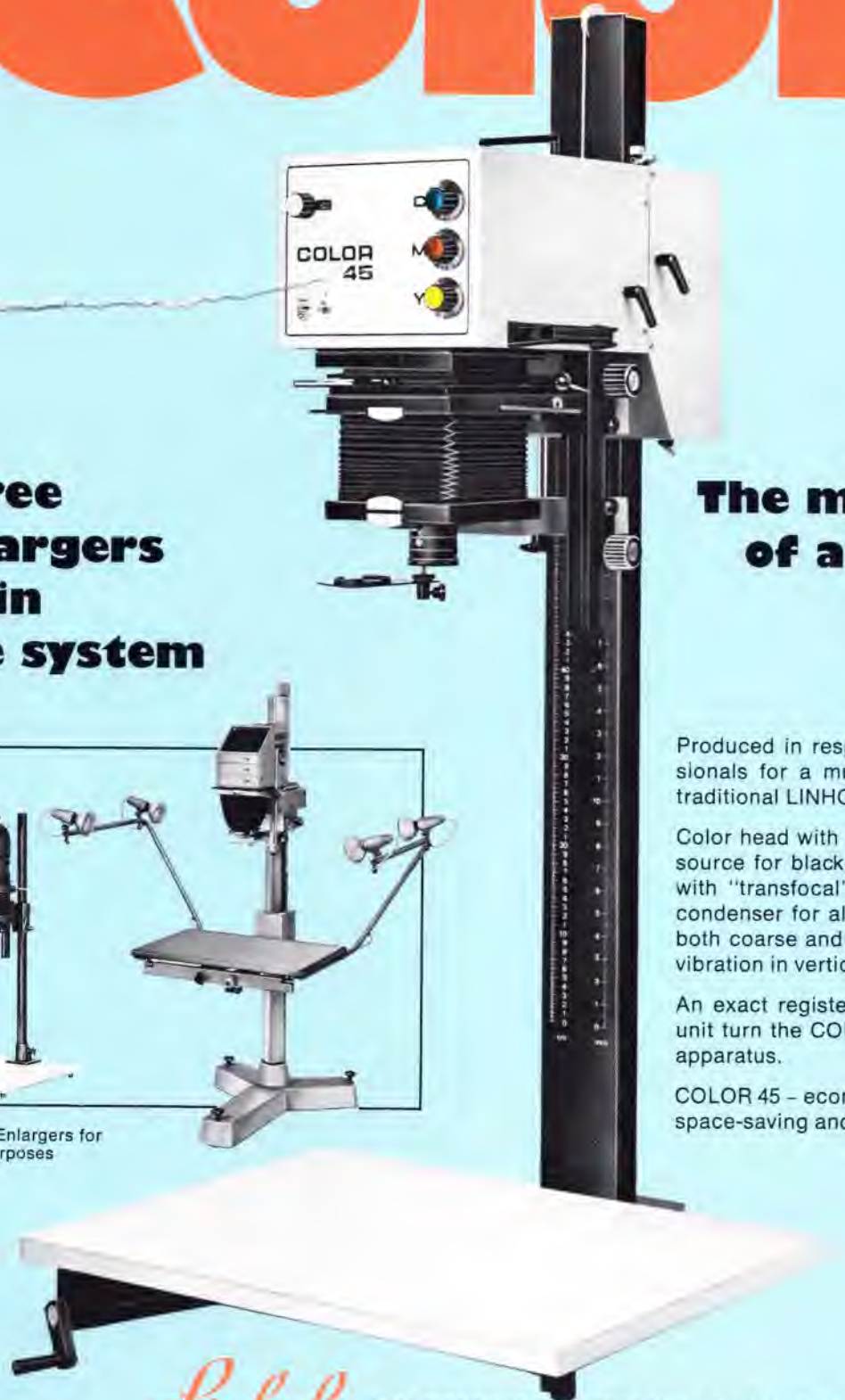
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